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# John R. Commons' Point of View

*By* KENNETH H. PARSONS*

*"In America we think concretely according to the common-law method of individual cases and precedents, conformable to our judicial sovereignty; while the Europeans think abstractedly in deductive terms handed down from Justinian, Napoleon, Adam Smith or Ricardo. If we generalize, as attempted in this book, we discuss only general principles, leaving their application to investigations of the particular cases. In this way has arisen the American common-law method. This American system of custom, precedent, and assumptions is with difficulty comprehended by European economists and jurists who operate under a system of codes constructed originally by dictators on the model of the perfected Roman law and changeable only by legislatures. Reliance on codes ends in revolutions, whereas the common law gradually eliminates the enforcement of contracts when found, in particular cases, to work injustice."*[1]

IN these words John R. Commons has not only given us his interpretation of what is distinctive about American social thought, he has also characterized succinctly his own method, as I understand it. This is as it should be. For few, if any other economists have so directly and intimately experienced the great structural changes that have occurred in the American economy since the Civil War. As the rise of urban industry has converted this country from an agrarian to an advanced industrial nation, Commons has participated in the labor movement as a printer, research student, an inventor and administrator of industrial government, and as adviser to a host of public officials. As he has served the American people in countless ways in their struggle as citizens to achieve a tolerable degree of order and security, by experiment and trial and

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[1] J. R. Commons, *Institutional Economics,* (Macmillan Co., 1934), Quotation re-arranged from *pp. 713 and 223.*

error, he has gradually worked out a comprehensive point of view. This essay is an attempt to give an exposition of the fundamentals of his position, and to suggest some of the issues that his theories present in relation to other approaches in social analysis.

## *I.*

Essentially, Commons has been attempting to work out a theory of economics which shall be adequate both for the analysis of economic problems and the guidance of social action in resolving the difficulties. It may very aptly be called a system of political economy. This may appear to be an odd description of an effort whose most comprehensive statement is entitled *Institutional Economics.* Yet the subtitle reads, "Its place in political economy." He somewhere suggests that he has carried this vision of a comprehensive political economy since his student days under Dr. Ely at Johns Hopkins. Whether he was studying labor unions, proportional representation, city finances, administrative commissions, the banking system, or institutional economics, it would seem there has been this wider frame of reference and the larger goal.

In this sense, he has been working in the great tradition. Yet his formulation centers in a distinctive way around the issues presented by social control, the acceptance of the process as of the nature of social things, collective action, the reality of economic power, conflicts of interest and social valuation. In addition, he has attempted to work out the problems of the relation of government to the economy, the functioning of the firm in its relation to the whole economy, and the significance of the legislatures and courts for economic life—which presumably any political economy must do.

To analyze such an array of problems obviously requires a comprehensive, theoretical viewpoint. Here Commons has been courageously creative although in general he belongs to the American pragmatic school. The apt remark of Professor Morris appears to apply to Commons quite as well as to Mead, toward whose work it was directed: "Darwinism, the experimental method, and democracy are the headwaters of the pragmatic stream.[2] There is great similarity in fundamentals, it now seems to me, between the work of Commons on the one hand, and that of John Dewey and the late G. H. Mead on the other. Yet the former has evidently worked through the basic methodological questions independently. He does not appear to have followed the work of Mead; he has some footnote references to Dewey in his recent works, but the most frequent and almost exclusive class reference, as I recall, was to Peirce. He returned time and again to the essay on "How to Make Our Ideas Clear."[3] Peirce also shares with Hume the title to Chapter IV of *Institutional Economics,* in line with the general policy in the book of crediting the "pioneers of insight."

Thus Commons shares in the deep faith of Pragmatists (or Instrumentalists) generally in the possibility of human intelligence for working out the problems of social conduct, for it is within such conduct that both mind and selves are developed. Commons' attention to the problems of social control and his definition of an institution as

[2] Charles W. Morris, Introduction to *Mind, Self and Society,* (G. H. Mead, University of Chicago Press, 1934), p. x.

[3] Reprinted in *Chance, Love, and Logic,* 1923. (Kegan Paul, Trench, Truhner & Co.), pp. 32-60. First published in *Popular Science Monthly,* January, 1878.

"collective action in control, liberation and expansion of individual action"[4] may be taken as suggestions of his position on these issues.

## II.

If one word were to be taken as describing the nature of the economy, or society generally, in Commons' formulation, it would probably be organization. This would serve merely to set off the grand conception from other general descriptions such as mechanism or organism.[5] The essential point would be that, as organization, the social structure would be the resultant of and embodiment of the designs, purposes and activities of human beings who had lived and worked in it. But this is merely a gross description of the nature of the universe of study.

We are nearer the foundation of the viewpoint when we consider the social process. Whatever else may or may not be said of Commons' attempt to formulate a general theory of economics, it seems to me that it is always struggling with problems of process analysis. And the process investigated is fundamentally social.

This brings the analysis to a focus upon social relationships—relations between persons. In the time sequence these relationships change; their changes are, of course, a matter for investigation. Economic relations, economic facts, are selected or particularized from the larger continuum of the social. This common ground of phenomena in the social serves as the foundation for the possible integration of the social sciences toward which Commons' analysis has been directed, at least implicitly. He has tried to formulate an analysis which would give a foundation for the coordination of the social sciences, especially law, ethics, economics and political science. This coordination is made necessary by planning, by administrative and legislative direction of economic affairs — by social control generally.

By way of emphasis, and precaution, it should be noted that *social* as here used, is not something set off against the physical or natural as an exclusive category. Rather *social* is used as a category including the physical; for physical things — resources and production — are caught up into a system of social relations. This particular position has been presented forcefully and generally by Dewey,[6] but it is implied throughout, it seems to me, in Commons' analysis.

Commons' position, furthermore, accepts conflicts of interest as natural and necessary ingredients of the social process.[7] There is individual action and collective action (perhaps individual action within collective action). In this action there are conflicts of interest. But there is more than conflict, there is mutual dependency and the achievement of order. Assuming that this is the nature of things social, the general question becomes one of how we go about building a stable society or a functioning economic system. For this much is clear, if social phenomena inherently contain the elements of conflict, dependence and order, then they are not something analyzed and settled once for all in the past, but are continuously and eternally recurring as problems to be dealt with.

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[4] *Institutional Economics*, p. 842.

[5] Commons frequently uses "concern" as equivalent to the here intended meaning of organization. Cf., *Institutional Economics*, p. 619 ff.

[6] Cf., *The Social Intelligence in the Modern World*, The Modern Library, edited by Joseph Ratner, pp. 1059-69; originally published as *Social as a Category, Monist, April, 1928*, pp. 161-177.

[7] *Institutional Economics*, p. 3.

We may now recur to the statement at the beginning of this section, and ask the question of how an economy as an organization is related to the social process. The answer may be even more general, for not only is organization achieved within the social process, but also valuation and production if social, is an inclusive form of interaction. The fundamental phenomena are social activities—individual action and collective action. By means of devised social procedures the relationships between individuals are stabilized or regularized; organizations are these stabilized relationships. Wherever alternatives are weighed and choices made within the achieved organization there is the phenomenon of valuation; Commons has devoted his thought especially to social valuations. Within organization, too, is achieved that coordination and integration of activity by which the raw materials of nature are converted, by production, into goods and services useful to mankind. It will be noted that these distinctions are a tentative marking off of different phases of behavior. Though provisional, they may be helpful in exploring the whole of the formulated point of view. Of the four—activity, organization, valuation and operations—we turn first to the analysis of activity.

## *III.*

It is the activities of and relations between persons that constitute the core of social phenomena. Consequently, a truly social analysis would presumably center upon the analysis of social relationships. At any rate, this is what Commons has tried to do. Out of the great "seamless web" of society, he has fixed upon the transaction as the basic unit of investigation. Transactions are not only actions, they are social actions, joint actions. Consequently, transactions involve individual behavior, or actions.

Since economic actions, or behavior, are merely aspects of the more inclusive social actions, an analysis of economic behavior, which is central to Commons' purpose, requires some marking off of economic behavior as such. Yet it is not easy to point precisely to what Commons means by economic behavior or activity. This difficulty stems from the practice, which is basic to his viewpoint, of using definitions as tools for investigating the ongoing social process rather than as basic propositions whose contents are to be explored by deductive reasoning.

In general, economic behavior is the activity of citizens as they go about the business of making a living, producing and acquiring wealth, in the actual world of affairs. He once wrote defining his conception of economics, " . . . we begin with man's relations to his fellow-man in the process of exploiting nature and distributing the proceeds by inducements and sanctions."[8] Again: "Our subject-matter is the transactions of human beings in producing, acquiring, and rationing wealth by cooperation, conflict, and the rules of the game."[9]

In its simplest form the principle of economy means proportioning the parts, or resources, to maximize their effectiveness. "The word 'economy' itself means the whole activity of proportioning the parts so as to get the largest results or the minimum effort. Hence the term 'economy' has always meant a part-whole relationship."[10] Where the concept of economy is related only to the physical relationships of man to things, either of producing a maximum of goods from the available resources, or of maximizing the

[8] Anglo-American Law and Economics, 1926. (mimeo., p. 41.)
[9] *Institutional Economics,* p. 121.
[10] *Ibid.,* p. 621.

satisfaction of wants through the consumptive process, economizing may be a relatively simple and individual activity. But where the individual is a citizen making his living through the give and take of a succession of transactions, proportioning or economizing becomes a complex of activity. This process of economizing breaks up into a repetition of transactions, where the complex economic behavior is guided by the will, which is analyzed by several different principles.

Professor Commons usually designates five distinct principles of economic action, although he has varied the number at different stages of his own formulation, and suggests that other persons may find a different number of principles more useful. The five principles of economic behavior are: efficiency, scarcity, futurity, the working rules of collective action and sovereignty.

These principles, he seems to say, are inherent in the structure of social action, at least in that phase of social action which is economic behavior. It is most important to understand that Commons defines a principle as "a supposed similarity of actions" in which the flow of time is essential. "Because a principle involves a sequence of time it is a similarity of cause, effect or purpose."[11] The reference to cause, effect or purpose refers to the conception of action in a social process. Action involves purpose through choice; and it involves cause and effect which are defined as relating to control through attention to the limiting factor.

The idea back of this formulation of principles is fundamentally an attempt to relate ideas to action, wherein both ideas, as principles, and the knowledge secured by their use, are relative to action. These principles have operational rather than existential status. They are essentially abstract ideas, defined for the purpose of investigating activity; or they are general conceptions arrived at by analysis and abstraction from the actual behavior of persons as they go about making a living in the actual world of affairs. As principles they represent the lines of actual choice and action, whether the actors know it or not, because they are implicit in the collective behavior of persons in the actual world.

The principle of efficiency relates to the similarities of activity insofar as it is directed to overcoming the resistance of nature. It relates to power over physical processes, and as an aspect of economic behavior it relates to the processing of materials into commodities. Ultimately, and in broadest social terms, it relates to the different forms of labor overcoming the "niggardliness of nature," converting materials into embodied uses or utilities for human purposes.

The principle of scarcity relates to the negotiations over prices and quantities. It is the similarity of actions in bargaining over the terms of transfer of ownership and delivery of physical goods.

The principle of futurity relates to expectations. Economic behavior rests upon the anticipation that the future will bring a similar, though variable repetition of opportunities and hindrances as experienced in the past or moving present. Purposes, values and expected consequences are the grounds for choices made in the present to be realized in the future.

The principle of working rules relates to the repetition of activities in which collective action creates order and stabilizes the wills of the participants by defining the rights and duties of each. It is the similarity of activity in custom, precedent, and statute law by which expectations are made secure. It is the ultimate

[11] *Ibid.*, p. 94.

principle which makes living in society possible by stabilizing the wills of those having superior bargaining power or authority.

The principle of sovereignty relates to the use of force toward legal inferiors by their superiors; the evolution of the state represents the extraction of the power of physical violence or force from private persons and its lodgment in the hands of authority. The principle of sovereignty relates to expected repetition in use of this force. It is the similarity of action in what the sheriff or other officials may do if the authoritative working rules are violated. "To the extent that the individual is clothed with this sovereign power of the state does he rise from the nakedness of slave, child, woman, alien, into the armament of a citizen, and his going concern rises from a conspiracy into a corporation."[12]

"The five part-principles constitute in their interdependence, the whole of the principle of willingness . . . As principle, it is the expected repetition, with variability, of the total of all human acting and transacting within the limiting and complementary interdependence of the principles of scarcity, efficiency, working rules, sovereignty, and futurity. The functional relations are such because a change in one dimension changes all the others, and thus changes the whole transaction or concern. If efficiency increases then scarcity diminishes, a variation in the working rules occurs, as well as of expectations of the future, and perhaps of the use of sovereignty."[13]

Since the principles are intended to explain what the human will must contend against in economic behavior, they also serve to define the field of fact for economics. It is evident that the field of fact which Commons seeks to investigate is social. Yet as social, the phenomena are continuous with the physical. For economic behavior is concerned in part with the physical world; livelihood can be attained only by subjecting nature's forces to the human will. These physical events are endowed with value for purposes of human choices and action with reference to them. Through custom, organized collective action, and the power of sovereignty, working rules and the wills of persons are stabilized so that security of expectations is achieved. The integration of these diverse aspects is achieved in actual affairs by the human will.

Professor Commons' treatment of the will, or the principle of willingness, is one of the crucial aspects of his social theory. It is not a "free will"; rather he is concerned with the freedom of choice which sets the limits to a discretionary will. The limits of freedom to choice are partly natural, partly socially determined. But the social process with the "billions of valuations, in the billions of transactions" moves "forward on that energy which we call the will."[14]

In choosing, which includes acting, the will is purposeful — forward-looking. "The will is always up against something. It is always performing, avoiding, forbearing, that is, always moving along lines, not of least resistance like physical forces without purpose but of overcoming resistance, . . . with a purpose looking toward the future."[15] Yet in the acting, the will does not go to the limit of its power. It is the only force which can place a limit on its own performance. It forbears to exercise its full power except in times of great crisis.

The individual is, then, a purposeful, discretionary actor. Action has three dis-

[12] J. R. Commons, *Legal Foundations of Capitalism,* (New York: MacMillan Co., 1924), p. 121.

[13] *Institutional Economics,* p. 738.

[14] *Legal Foundations,* p. 8.

[15] *Ibid.,* p. 79.

cernible dimensions: performance, avoidance, forbearance. This is as true of action and reaction with nature as in the negotiation or dealing with other persons. Performance is the overt aspect of choice; yet the will forbears, placing a limit on the degree of power exercised. The limit of avoidance is set by society which defines, by collective action, what the actor as well as all other parties must not do under the circumstances.

It is by the process of choosing (selecting and acting) within associations that individuals become personalities. "Individuals . . . learn the custom of language, of cooperation with other individuals, of working toward common ends, of negotiations to eliminate conflicts of interests, of subordination to the working rules of the many concerns of which they are members. They meet each other, not as physiological bodies moved by glands, nor as 'globules of desire' moved by pain and pleasure, similar to the forces of physical and animal nature, but as prepared more or less by habit, induced by the pressure of custom, to engage in those highly artificial transactions created by the collective will. . . . Instead of individuals the participants are citizens of a going concern. Instead of mechanical uniformities . . . they are highly variable personalities."[16] Sometimes he speaks of individuals as institutionalized personalities.

Since each individual is to some degree a center of discretion and influence, agreements in transactions are achieved by negotiation. The consensus necessary for joint action may be reached by the power of persuasion between economic equals, or by the coercion of the stronger over the weaker. This field of activity is covered by Commons' term, negotiational psychology. It is by negotiation that parties which are involved in conflicts of interest, because of scarcity of opportunities, achieve that reciprocal alienation of what each wants but must secure from the other.

Whether the choosing is between natural opportunities or between the proprietary opportunities, through negotiation, "the human will has the strange but familiar ability to act upon a single factor, out of hundreds of thousands of complex factors, in such a way that other factors shall, of their own inherent forces, bring about the results intended."[17] This observation leads to the related doctrine of complementary and limiting factors which forms the core of his interpretation of economic behavior. In terms of social activity, the complementary and limiting factors are routine and strategic transactions. Since thought directs attention to the limiting factor, this doctrine is basic to Commons' conception of control. On the physical level control consists of manipulation of the limiting factors; in social affairs control finds its characteristic expression in the role of leadership influencing the collective will at the strategic time and place. His theory of causation stems from the same root; the cause is that which controls the limiting factor.

"Of course, if all the complementary factors become limiting factors at one point of time, then none of them is strategic, and the matter is hopeless." For a business the result would be bankruptcy; for society as a whole, revolution. Generally, "the limiting factors are not cumulative at a point of time. They are successive during a sequence of time. The most important of all investigation in the economic affairs of life, and the most difficult, as we shall find, is the investigation of strategic and contributory

[16] *Institutional Economics*, p. 73-4.

[17] *Ibid.*, p. 89.

factors. It is none other than a universal principle of the human will in action."[18]

The argument so far may suggest why Commons considers the transaction as the minimum unit of investigation among economic and social relations. It is a social relationship of man to man; it is where the minds and wills of persons meet in the give and take of the social process, with the ingredient conflict, mutuality and achieved order. Behind these transactions are the actions of individuals. As a lone personality one may, and does weigh his alternatives and formulate his choices, yet action in society can follow only by coming to terms with other citizens and the officials of organized society. "Thus the ultimate unit of activity . . . must contain in itself the three principles of conflict, dependence and order. This unit is the transaction. . . . Transactions intervene between the production of labor of the classical economists, and the pleasures of consumption of the hedonic economists, simply because it is society, that, by its rules of order, controls ownership of and access to the forces of nature."[19]

Commons makes the transaction the unit of investigation because he is attempting to reduce collective action to the simplest form of social relationship. Yet the transactions are not all of one kind. They differ according to the issue of the transaction and the status of the participants. Commons distinguishes three types of transactions: bargaining, managerial and rationing.

Bargaining transactions occur between persons who are legal equals; in case of dispute the adjudicator holds them equal before the law. If they are economic equals, the negotiators reach agreement by the mere persuasion of personality; if they are economically unequal, there may be coercion, as in case of the disparate withholding power of a workman bargaining with a corporation over a job. The subject matter of a bargaining transaction is the familiar price of the market, although more precisely it pertains to the terms of alienation of ownership.

The managerial transaction occurs between parties which stand in the legal relation of superior and inferior; it represents a command-and-obedience relationship. The typical situation includes a foreman and a workman. One orders; the other obeys. In terms of subject matter managerial transactions pertain to the processes of physical performance, as the construction of a machine, or the physical delivery of goods.

It is evident that bargaining and managerial transactions are interdependent and not clearly separate in fact. They are related as limiting and complementary factors. "As a bargainer, the modern wage earner is deemed to be the legal equal of his employer, induced to enter the transaction by persuasion or coercion; but once he is permitted to enter the place of employment he becomes legally inferior, induced by commands which he is required to obey."[20]

The third type of transaction, the rationing transaction, also pertains to persons in the legal relationship of superior-inferior. However, the rationing is done by means of negotiation and agreement among persons who have been authorized to apportion the benefits and burdens. The allocation of tax burdens has long been the typical rationing transaction between the concern and the general politico-economic organization. Recently the government has been rationing allotments and benefits to farmers, for example, through the agricultural ad-

[18] *Ibid.*, p. 90.
[19] *Ibid.*, p. 58.
[20] *Ibid.*, p. 65.

justment programs. Currently, rationing transactions are supplanting, more and more, the usual bargaining transactions as the government assumes direct control of the economy under the war emergency. Within a going concern with the legal form of a corporation, a typical rationing transaction would be the directors formulating a budget or voting a dividend.[21]

Professor Commons distinguishes types of transactions from one another by means of both economic and legal relationships. For example, bargaining transactions occur between persons deemed equal by the law although there may be a world of difference in economic power. This combined analysis of legal and economic relationships is a dominant feature of his whole scheme of thought.

Throughout the formulation, individual action and transactions are recognized as derivative from, or ingredient to, social action. Indeed, the attempt to actually analyze collective action, in relation to the functioning of the economy, is one of Commons' major purposes. The twentieth century is the age of collective action. The problem is how can we understand and control, somewhat, these great collective pressures and activities. The case is made urgent, in Commons' view, by the viewpoint of individualism which has dominated so strongly the economic thought of the past century.

Conformable with the general viewpoint and the facts to be investigated, Commons has taken as his definition of an institution *collective action in control, liberation, and expansion of individual action.* Within this formula may be seen the implicit recognition of the predominant significance of the social, of the achievement of individuality within the social nexus, of the operation of social controls upon social relationships — as well as the means by which social organization is achieved within social action.

[21] *Ibid.*, pp. 67-8, 876-903.

## *IV.*

The acceptance of the evolutionary, or process point of view requires that any system of economic or social thought shall conceptualize somehow the mode by which organized activity emerges from more rudimentary forms. This emergence in Commons' thought may be suggested by the relation between customs and going concerns.

As the unorganized form of collective action, "custom is the mere repetition, duplication, and variability of practices and transactions."[22] Customary behavior, then, is stabilized social behavior, affording to the individual the expectation that the usual ways of doing things may be continued. Yet customs vary; indeed from among the variable customs, selections are made — consciously or habitually, by the human will.

These elemental forms of collective action are the resources from which those practices and relationships are chosen which are extended, developed, and integrated into social organization. Landlords and tenants hit upon social arrangements which are mutually beneficial; travelers upon a common highway learn that, if everyone drives to the right, passage is facilitated and made more secure; business men discover practices and procedures that are helpful to them. Through wide acceptance such practices become customary. From among these countless ways of social behavior, mankind has selected practices and made them more secure and of general application. The classic case of this function in the Anglo-American tradition is the common-law method of selecting good prac-

[22] *Ibid.*, pp. 44-5.

tices and making them into the law of the land.[23] These regularized social relationships are the forms of social organizations: Their great function is to create security of expectations — for individuals, associations, concerns. But the problem is an eternal one, since the achievement of order and security of expectations occurs within the ongoing social process.

Social relations are stabilized by defining the limits within which individual behavior is allowed discretionary action. Essentially this consists in defining the limits of avoidance for action. Persons have duties to avoid specified acts. Speaking more generally, in terms of Commons' analysis already noted, all acting is performing, avoiding or forbearing. Collective working rules define the dimensions of avoidance; within these limits persons perform or forbear. That is, working rules define the limits within which an individual is allowed to exercise his own will. Fundamentally, it is the exercise of wills which is canalized or controlled. And this occurs at both the customary and the organized levels of social action.

As the wills of the participants become stabilized in the processes of collective action, it then becomes possible to organize going concerns. In most general terms, a going concern is an organization of coordinated activity; it is collective behavior with a common purpose, and a collective will, governed by common working rules.[24] Going concerns, as units of organization, occur in all phases of social life.

The state, itself, is a going concern, developed out of the stream of collective action.[25] In our democratic constitutional form of government the discretionary powers of the officials running the concern are defined and limited by the general legislative and judicial procedures, culminating in the United States in the judicial supremacy of the Supreme Court. As a going concern the state has taken over the power of violence; the exercise of this power is the function of sovereignty. Since the state gives us the status of citizenship and the citizen must make his economic behavior conform to the rules of the state, Commons includes the principle of sovereignty as one of the principles of economic behavior.

The state, or states — including all branches, — through its officials and employees, define the working rules by which the individual's behavior is organized. By working rules, duties are imposed upon persons; this imposition of duties creates correlative rights in other persons. Both property and what Commons terms the status of individuals stem from these rights, which are quite literally the expectation that the state will impose duties on other persons.

This may be made more explicit by a brief sketch of Commons' formulation of the economic status of individuals or concerns. We are free to plan and direct our own lives and concerns to the extent that we have stable roles or zones of discretion within which we can exercise our own wills. This is the organizational aspect of security of expectations. These zones of discretion are created primarily through the operation of the (law) working rules of the state. These working rules define the status of individuals and concerns. To the extent that the state imposes duties on all other persons, we have rights. In terms of status, to the extent that other persons are under du-

[23] Commons' *Legal Foundation of Capitalism*, (MacMillan: 1924), deals with this problem extensively. See especially pp. 214 to 312; "The Rent Bargain"; "The Price Bargain"; and "The Wage Bargain".

[24] *Ibid.*, p. 145.

[25] *Ibid.*, p. 149 ff.

ties, I am in the status of security; their conformity gives me the status of security commensurate with my rights. However, beyond these relationships there is the status relationship of liberty-exposure. To the extent that other persons are under no obligation or duty to respect my person or property I am exposed to their liberty. In terms of a business concern, a business is exposed to the liberty of its customers to buy where they please. But a business in debt to a bank must conform to the rules for paying debts. The conformity of the concern to these rules gives the bank the status of security, with respect to the debt.

Similarly, property is related to the procedures of the state. Property is an object held for the owner's exclusive use, sale or disposal. But property rights are the social relations which the state vests in the owner of property. Again, these rights are created only by the imposition of duties upon other persons. Thus, property rights are literally social relationships stabilized according to law. When one buys property, he really buys rights to property; and when he buys the rights to property he is buying the expectation that the state will use its powers to support the purchaser's claims to the property.

Commons has traced out, especially in his *Legal Foundation of Capitalism*, the long, halting judicial procedure by which the meaning of property has been changed. In the original common-law conception, property meant a physical corporeal thing held for one's own use. Gradually, property came to mean the sale or exchange value of the thing rather than the physical object.[26] This shift from things for use to rights of sale, changes the meaning of property from things to expected behavior regarding things. Thus Commons concludes, "The term 'property' cannot be defined except by defining all the activities which individuals and the community are at liberty or required to do or not to do, with reference to the object claimed as property."[27] This has the effect of recognizing that both liberty and economic power are aspects of private property.

These are some of the essential relationships in social organization within which business concerns are organized for the purpose of producing wealth and acquiring income. The head of a concern must get the concern going and keep it going. In most general terms, this directive function is the will in action. The head of the concern evaluates the alternatives and chooses from among them. But since the concern is organized in a social context or situation, the opportunities must be acquired before they can be used. And acquisition requires that the head of the firm (or his representatives) must come to terms with the owners of the opportunities through negotiations and transactions.

The critical or strategic aspect of the opportunities, either for purchase or sale, is their position in social organization. When one buys or sells commodities, he both transfers title to them, and actually moves the commodities. But, it is as property rights, titles — not things — that commodities are actually integrated into social organization. Thus unless a business man is living in a society where social relationships have been ordered and stabilized so that he may count on the state to enforce some necessary minimum of duties on other persons, he does not have sufficient security of expectations to build and operate a going concern. Labor differs from commodities fundamentally in that a worker is not al-

[26] *Ibid.*, p. 11 ff.

[27] *Institutional Economics*, p. 74.

lowed by law to sell himself into servitude, he can only sell his willingness to work.

Social organization, then, creates the roles within which the world, both as resources and as markets, is available as opportunities to the management of a concern. It is by transactions with other parties that these opportunities are actually brought into the going concerns. Since a going concern functions within the time sequence (social process), it is really the expectation that transactions will continue in the future that keeps a concern going.

Through bargaining transactions, the head of the concern acquires title, the rights to use or withhold, in the commodities and labor. Through managerial transaction the persons within a concern are directed in the transformation of the raw materials into processed goods — as when and where the management directs. Within a going concern, bargaining transactions are related to managerial transactions as complementary and limiting factors. The third type, rationing transactions, is similarly included in those concerns where authorized persons ration out the burdens and benefits, such as dividends. The expected repetition of all transactions is a going concern. "The whole is a going concern. It is a joint willingness of all participants: the willingness of employees and managers to maintain and operate the plant; the willingness of customers to buy, of investors and bankers to lend, of material men to sell, and of others to participate. The so-called 'right' of each to participate and to have compensation for participation is the intangible property of liberty and exposure. But the right of each individually to have compensation for his previous services is the incorporeal property of debt, wherein the concern is debtor."[28]

Essentially, what Commons is seeking here, it may be assumed, is some way to analyze the operations of a concern so that the results of the analysis shall be relevant to social action and the time sequence. To do this, the analysis operationally reduces the concern to a number of different social relationships which have wider ties to the social structure. This approach treats a concern as a succession of decisions and transactions. The head actually builds up a concern, gets it going, and keeps it going by the transactions into which he enters on behalf of the concern. Commons implicitly classifies these transactions in terms of the control exercisable over them. Transactions in the moving present, or immediate future, are strategic; those which recur without attention are routine. Thus, first one transaction and then another becomes strategic only to pass over into routine for some period of time.

The implicit relationships of property to the going concern can now be made explicit. Through bargaining transactions workmen or suppliers agree to deliver materials or services. The laborer delivers his labor power through managerial transactions. Until pay-day he is creditor to the concern; similarly with all services and materials. The creditor-debtor relationship is legally one of right and duty. The security of the creditor is the conformity of the debtor to the duties of payment imposed by law.

The creditor-debtor relationship is an instance of incorporeal property. Incorporeal property rests on the duties of performance; it is the expected fulfillment of promises made. In one of its fundamental aspects it rests upon the negotiability of debt. This great social invention actually permits the purchase or sale of mere promises to pay much as any tangible commodity.

[28] *Ibid.*, p. 422.

Except as negotiations lead to agreements which are enforceable, as the payment of debts, the relations between persons within a concern is that of liberty-exposure. The workman is exposed to the liberty of the foreman to fire; the employer is exposed to the liberty of the workman to quit. The bankers have the liberty to refuse to lend, the customers the liberty to refuse to buy. In the nature of the case there are no duties of performance. Here the duties are merely of avoidance. Either party may withhold what the other needs but does not own; the withholding is limited by the resources and alternative opportunities of the bargainers. The concern must depend on the "good will" of the parties for their continued participation. Broadly speaking, this expectation of continued beneficial transactions is intangible property.

The significance of Commons' property analysis could be made more clear, no doubt, by following the argument through other parts of his thought. He has traced out the processes by which debts have become negotiable; he then makes negotiable debts the foundation of his transactional theory of money. The capital value of the individual firm and property are shown to be essentially the same set of relationships from two different points of view. Property is a set of social relationships which ties the future to the present through expectations of stabilized behavior regarding other persons and things; the value of a concern consists in private title to them. But further pursuit of the argument regarding property could only make more emphatic one major inference which can already be drawn. The analysis so far reveals that the power of the state, the functioning of the state, is an integral part of every business at every moment simply because the very objects of purchase and sale — property rights — are themselves created only by the unseen pressure of the state which stabilizes the wills of the participants by imposing duties upon them.

In his review of *Institutional Economics,* Max Lerner remarks: "This knitting of state authority into the texture of accepted economic material constitutes the real significance of Professor Commons' work. While his framework is large enough to include all forms of collective action in control of individual action, he actually concentrates on the legal sanctions."[29]

It is not an exaggeration to say that the analysis of property relations is an integral part of Commons' thought throughout his formulation. Methodologically this differs greatly from what is usually called economic analysis. But Commons, contrary to the prevailing practice of economic theorists, does not "assume" private property or ownership as a starting point and then work out the implications of economizing under static conditions. Rather, he sets out to make an analysis of economic processes, in which he finds property relations to be an important part. The fundamental difference between Commons' and the more usual approaches, therefore, appears to turn on the question relating to process analysis more than on property as such.[30] At least this much can be said, Commons has found that the meaning of property has changed greatly and significantly as the Anglo-American politico-economic organization has gradually emerged into

[29] *Harvard Law Review,* 1935, p. 363.

[30] Commons makes an interesting comment on Veblen's position which bears rather directly on this point: "Veblen, when he changes from entities to processes, must change from corporeal property which contains no pecuniary process of buying and selling, to intangible property which is none other than the pecuniary process itself." *Institutional Economics,* p. 658.

the modern money and credit economy, called capitalism. This is especially important in revealing the development of economic power, which looms so large in valuation processes in the current economy.

## *V.*

Commons' analysis of valuation is formulated in what he calls a theory of reasonable value. This is obviously a theory of social valuation — an integral part of the theory of the economics of collective action. It roots in his analysis of bargaining transactions. Since transactions are joint actions they require conjoint-valuations or agreement upon valuations. He has described it as "a theory of the joint activity and valuations of individuals in all transactions through which the participants mutually induce each other to a consensus of opinion and action."[31]

The issue of reasonableness in this theory of valuations arises in connection with the bargaining power of the participants to the transaction. Reasonableness relates essentially to the question of how much disparity of economic power is tolerable in agreements over prices. Bargaining transactions occur between parties, equal before the law, but who may have greatly unequal economic power. This economic power roots, in turn, in the power of property — coincident with the court's expanded meaning of property from a corporeal thing held for one's use, to the value of access to market — including the right to withhold from others. "Thus, with the legal power to withhold commodities and services finally recognized in law, reasonable restraint of trade, according to the court's ideas of reasonableness but contrary to the anti-trust laws, comes to have a standing in law; and its equivalent bargaining power, or intangible property, comes to have a standing in economics. For restraint of trade *is* bargaining power, and reasonable restraint of trade is reasonable bargaining power."[32]

As a theory of valuation, this is a radical departure from the usual procedure in economic theory. Instead of individual valuation, we have social valuation. Instead of a theory of valuation at the limit of perfect competition, we have valuations in the zone of private power. Instead of valuations of resources in terms of the incremental values to one individual or concern, we have valuations between two individuals or concerns.

It is also evident that Commons' analysis recognizes that valuation is an aspect of social action and social organization. We may generalize this position and see that Commons has been interested in a different problem than that which orthodox price theory has analyzed. Seemingly, he makes a social analysis, upon the assumption that private enterprise means just that — the working of each private person or business in its own interest, assuming the risks of business, driving bargains for himself, adjusting operations to the point of maximum profit for self, and so on. The point is that he has not been concerned to formulate an analysis pointing to the maximum return to the private firm; rather, if I understand him, he has been interested in analyzing the structure of opportunities, within which private liberty and economy operate. The opportunities available to an individual, or firm, are a function of social organization and action. In one place he speaks of "social opportunities, owned, controlled or withheld by other individuals, in a world where there is no equi-

[31] *Ibid.*, p. 25.

[32] *Ibid.*, p. 344.

librium at the cost of reproduction simply because there is not perfect freedom, perfect equality, or perfect promptitude of competition."[33]

Commons does not mean that no evaluation of alternatives is made by the individual as a basis of choice. Nor would there be any necessary inconsistence between Commons 'thought and the formulation of an ideal pattern of resource use for the individual firm, wherein one follows out the implications of efficiency of resource use to its logical limit under given conditions. One can even go farther. Presumably the individual can work out any ideal pattern of valuation as a vision for guiding his own course, combining efficiency, utility, security, play and leisure (or anything else within the law) —provided he can make ends meet. But wherever an individual or head of a concern would act upon the basis of these individual valuations in a way that requires joint action, there is also social valuation.

However, it does follow necessarily, I infer, that prices are always the resultant of social valuations, rather than the outcome of some mechanical or physical process. Prices are the issue in bargaining transactions, wherein two individual wills meet and agree upon a joint performance of payment and delivery of goods. This is true, Commons would hold, even though the bargaining took place under any conceivable degree of competition — or the lack of it.

This follows from his conception of bargaining. It is a very broad concept and includes both the offering of goods (or services) and the power to withhold them. If all transactions were carried out near the conceptual limit of perfect competition, then the bargaining power would be just the mere offering of goods and services and price would be equal to the cost of production. At the opposite conceptual limit (monopoly), potential participants might have sufficient withholding power to fail indefinitely to reach an agreement. Commons' conception of bargaining power is so general as to include the ability of a participant at either extreme or at any intermediary position — in relation to the opportunities of the particular time and place.

This is the common ground beneath all prices, and the basis upon which the issue of reasonableness is decided. In the common-law tradition of the Anglo-American economy, these questions have been settled by the courts. This is preeminently true in America where the Supreme Court is supreme over all other branches of government. Most of Commons' analysis of reasonable valuation, consequently, has been devoted to a study of court decisions. In order to decide the reasonableness of particular cases, the common-law courts developed the principle of a willing buyer and a willing seller; where both parties were willing, the sale was fair — and there was fair competition.[34]

The issues confronting the courts are increasingly difficult as conflicts of interest, collective action, corporations, and the great aggregations of power in private property become more characteristic of our economy. Yet, Commons' position implies that the question of the degree of private power that is tolerable is ultimately a judicial question. Though fairness is the issue, the decisions could not turn solely on justice, for there is always the more basic problem of order.

Although Commons' analysis of social valuation has been centered on judicial decisions, the theory is of wider import.

[33] *Ibid.*, p. 331.

[34] Cf., J. R. Commons, "Fair Return"—*Encyclopedia of the Social Sciences*, (Macmillan: 1931), Vol. 6, pp. 56-58.

Inferentially, at least, he suggests that any theory of social valuation must be based upon principles for deciding disputes and resolving conflicts. This seems to follow necessarily from the conception of the social process as containing conflicts, dependence and order. The problem of social valuation is to achieve a common valuation so that order and mutuality can be achieved.

By drawing the inferences a bit further, it is suggested in Commons' thought that social valuations are of a different order than individual valuations. Social valuations are a part of the achieving of a stable and tolerable social organization. The values here appear to be order, justice, equality, security, etc., as well as economy. To the individual, either as a person or a concern, the consequences of the social status of these values are incorporated into the opportunities (or dis-opportunities) which are the individual's alternatives. And it is the structure of these opportunities which gives us the dimensions of freedom and liberty — in short, individual discretionary action. Of course if the social order collapses, or the economy of which we are participants stops functioning, then the stable opportunities disappear and everything dissolves in starvation, anarchy, or revolution.

In terms of social ethics, Commons holds that we do not settle disputes by reference to some broad philosophy of the social good. Instead, the conceptions of the social good must be derivative from the way we settle disputes. In short, social ethics is concerned with the settlement of disputes.[35]

In Commons' view, there are two theories of the origin of ethics. "One was the individualistic theory of the maximum of pleasure in a world of abundance, where the individual could not injure others by taking all he wanted. The other was the social theory of conflict of interests in a world of scarcity, where the individual may injure others if he takes all he wants. On the foundation of the latter theory ethics is an historical process developing out of the decisions of economic disputes and there is no dualism of ethics and economics."[36] Commons accepts the latter theory.

In the preceding sections we have attempted to present a broad outline of Commons' thought relative to activity, organization, and valuation. We now turn to a brief consideration of some of the issues that arise in analyzing the operations of the economy in relation to these basic theoretical conceptions.

## *VI.*

The distinction in terms of activity between bargaining transactions and managerial transactions runs throughout Commons' analysis; it appears in the distinction between ownership and wealth, between withholding and producing, between scarcity and efficiency. It is indeed none other than the making, throughout the economy, of an analytical distinction between the proprietary aspect or ownership point of view in contrast with the production of things — goods, uses and services. Where traditional analysis assumes that all scarce goods are owned, Commons analyzes the property, ownership, bargaining activities as variables coordinate with his analysis of production.

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[35] I am indebted to Professor Charner M. Perry of the University of Chicago for assistance in understanding the fundamental issues in this phase of Professor Commons' thought. Cf., Charner Perry, "The Arbitrary as Basis for Rational Morality," *International Journal of Ethics*, Vol. 43, 1932-33, pp. 127-144, and "Principles of Value and the Problem of Ethics," *Revue Internationale de Philosophie*, July 15, 1939.

[36] *Institutional Economics*, p. 225.

The essence of the distinction may be noted in terms of the problem of proportionality. The principle of proportionality is, of course, a universal principle; Commons uses it formulated as the principle of limiting and complementary factors. "The limiting factor is the one whose control, in the right form, at the right place and time, will set the complementary factors at work to bring about the results intended."[37] When the proportioning of the complementary and limiting factor is looked at from the volitional standpoint, we have routine and strategic transactions. These transactions are the actual process by which the human will in our modern economy actually controls the physical and social environment.

It is through the social relationship of managerial transactions that the management of a concern controls physical processes. The coordination and repetition of the transactions create the organization of a going plant — and keep it going. In such plants wealth is created by turning the raw materials of nature into forms which embody uses. By bargaining transactions, the business man purchases the raw materials and sells the finished product. The organization and repetition of these transactions (together with some rationing transactions) create the going business. The integration of the going plant with the going business is a going concern.

In this way, the processes of production are separated out, for the purpose of analysis. The productive processes include all of the activities of mankind in overcoming the resistance of nature. As a process it is measured in terms of ratios of input to output. The input is labor and materials. The output is something which mankind deems useful at the current stage of civilization, else it will not be made. The way in which the productive processes are interrelated with the financial operations of concerns, requires that production of things be limited in the interest of price and returns. But the restriction is withholding, not production. The production of use-values exemplifies the principle of efficiency. It is the activity of mankind in subduing the forces of nature to their own purposes.

In general terms and from a broad social viewpoint efficiency is measured by man-hours in relation to output. He concedes that the attempt to measure efficiency in these terms has limitations when applied to individual concerns, since the labor of any one concern is only partially direct labor. Yet viewed in the large, socially and historically, all production is attributable to labor — mental, manual, and managerial. The logic of Commons' position in this particular, as well as his insistence that man-hours are the proper social measurement of efficiency, roots in the Ricardian doctrine of the niggardliness of nature. Nature is not productive; it merely offers differing degrees of resistance to man's efforts to turn natural forces to human purposes. A wheat field naturally produces weeds, grass or brush, not wheat.

It should be noted, however, that the fundamental problem is independent of the proposed method of measurement. The problem is — how can, and does mankind living in a society convert the forces of nature into uses and services? It is into this phase of economic activity that the stable physical relations are integrated. The physical combinations and proportions react in their own terms independent of their prices. Yet such combinations are more than mere physical motion. The basic physical and mechanical processes are combined and proportioned in accordance with human pur-

[37] *Ibid.*, p. 628.

poses, including the intent to economize on labor. It is the human purposes which have converted the mechanical or physical actions and reactions into machines and going plants.

Thus Commons restricts production to the process of turning out use-values. The qualities of objects, as objects, which make them useful do not change with the quantities produced, although the significance of these uses to the individual changes with the quantities, their relative scarcity. At different stages of civilization, different things are wanted, as carriages have given way to automobiles. To supply these wants is a task of physical organization. Natural forces or materials are converted into uses or services by collective effort through managerial transactions which are integrated into going plants and going concerns.

Bargaining transactions occur over transfers of ownership. It is through these transactions that the production process is supplied with materials, and the output disposed of. This is the income, outgo relationship. It is through the bargaining transactions that the going concern is actually related to other firms — to resources and markets. Commons generalizes this relationship from a social point of view under the name of scarcity, the relation between quantities wanted and quantities available. This is the familiar relationship of supply and demand, whose effects upon transactions are measured in terms of money.[38]

It may be noted that Commons has herein distinguished two pairs of relationships, input-output, income and outgo. Input-output are a part of the physical processes of production; income-outgo are a part of the proprietary or business processes. For example, output is not income for the wage worker, because his output is a physical transformation of his employer's materials. "It depends upon who owns the output. The output of the slave is the income of the owner. The output of the laborer is the income of the employer. The input of the laborer is man-power. His output is use-value. The money outgo of the employer and equivalent income of the laborer is the money wage. There is no necessary or natural connection between use-value and money. They are measured by two different systems of measurement, which are inconvertible."[39]

This distinction between input-output and money outgo-income follows from Commons' separation of efficiency (production) from scarcity (transference of ownership). It has not been uncommon in discussion of proportionality for economists to use dollar inputs as the ground for arriving at the point of maximum efficiency, the "least cost combination." In discussing Black's analysis in *Production Economics*[40] Commons remarks that this latter method of calculating efficiency is "important and useful in the private management of . . . concerns," but that it leads to social fallacies.[41] He has traced out what appear to him to be the many fallacies in economic thought, which have been involved in the failure to distinguish things from ownership, producing from withholding, in short, what Commons calls efficiency from scarcity.[42] "Thus the classical economists did not distinguish output from income, or outgo from input. The distinction was concealed in the double meanings of cost and value. They assumed that, of course, a man's output was his income."[43]

[38] *Ibid.*, pp. 261-2.

[39] *Ibid.*, p. 287.

[40] John D. Black, *Introduction to Production Economics*, 1926.

[41] *Institutional Economics*, pp. 276-7.

[42] This is essentially Veblen's distinction between industry and business.

[43] *Institutional Economics*, p. 286.

The order of problems which he has been intent upon studying may be seen by reminding ourselves, for example, of the problems of reasonableness arising in the field of scarcity. Also, in the realm of efficiency Commons has been interested in such social issues, as who get the benefits of technological improvements. Without distinguishing scarcity from efficiency, i.e., if money is taken as the measure of efficiency, he observes that a business man who makes a high net income by beating down wages may be held to be just as efficient as one who pays high wages but has a superior organization.

Without attempting here to appraise Commons' criticisms of the tradition on these issues, I would point out some of the premises implicit in his analysis. Commons is attempting in this phase of his thought to analyze the actual operations of concerns; not to formulate an ideal pattern of resource utilization as a policy guide for the concern. It is "logically" true that cost equals value at the limit of perfect competition: Commons' analysis is always pointed toward actual events, i.e., somewhere in the field of what is now called imperfect competition. Thirdly, Commons' reference point is social; not private. He has defined efficiency and scarcity with reference to investigations into two differentiated aspects of social action. Too, the going concern, the firm, in Commons' thought, is always, so far as I am aware, a concern with employees. His analysis is not aimed at analyzing the economizing of the self-employed entrepreneur. The reference point is social, fundamentally, to social action.

The measurement, for Commons, of input-output, and income-outgo is the measurement of performance; and basically the performance is social. This follows from his attention to the two-sided collective action that relates persons to firms, or firms to each other, rather than to the "net income" economic position of the firm.[44] This directs attention to the gross income and gross outgo of the concern. Commons insists that to do otherwise conceals the conflict of interests. The courts can deal only with the gross income, gross outgo aspects of the concerns for it is here that the conflicts arise which call for adjudication.

This taking of the social viewpoint, with reference to performance, income and outgo, has some rather startling implications. Commons concludes that it is the courts who have been responsible for the adoption of weights and measures. It was the social necessity for devising measures of performance that led to the adoption of standard units of measurements, dollars, pounds, tons, yards. When conflicts come before courts, there must be some way of determining whether the agreements have been carried out. Since all contracts or legal agreements are potential cases for adjudication, then all must be enforceable at law. If one party agrees to pay $100 for 100 bushels of No. 3 red winter wheat and the other agrees to deliver 100 bushels of wheat of specified grade for $100, it is objectively ascertainable whether or not each performed his part of the contract.

Thus we are led again to the point Commons makes so often, it is the stabilization of the duty relationships which gives security of expectations, and it is the necessity of this security that leads to the making of duties precise. "Units of measurement are, indeed, defined historically and not logically, for they are historical institutions developed from custom or law in order to make precise the administration of justice. All units of measurement are 'nominal' just as

[44] Cf., especially his paper, "Institutional Economics," *Proceedings of American Economic Association, Supplement,* March, 1936, pp. 237-249.

language is nominal. Yet they have reality. Their reality is collective action, for they give precision to the working rules that determine how much or how little shall be paid or performed by individuals or corporations."[45]

With this insight, Commons' theory seems to me to come "full-circle." By this argument he shows how a social process acquires the forms which are the basis of modern business concerns. He has analyzed the way general organization, valuation, and now specific and measurable forms have been achieved. If this be true we are justified in pointing to some of the possible issues that may be related to this genetic explanation of the appearance of measurable forms in the social process. The general question is: When and why does mathematics apply to social existence? Although Commons has made no comment on this issue, so far as I know, his analysis suggests that mathematics apply as far as social activities have been regularized and made precise by units of measurements imposed in the interest of order and justice.

At least this much can be said, given such a genetic explanation, one does not need to assume a Newtonian, mechanical universe in order to generalize from the fields of research and inquiry in economics where mathematical analyses have proven fruitful. Here, I merely throw out suggestions, but this position does offer promise of giving a basis for a genuine general theory based upon social categories, yet incorporating mathematical analyses to the full where the social relations to be analyzed have actually been quantified and regularized in the course of social action. Furthermore, this may suggest why statistical and mathematical procedures are not sufficient for the study of policy — as Professor Knight once observed in lecture. Policy and social control require analysis of social organization, valuation and action. To concentrate upon statistical methods may lead one not only to lose reference to the distinctly social, but also to concentrate upon the outcomes and residues of social action rather than its basic structure.

[45] *Institutional Economics*, p. 468.

## *VII.*

The argument so far has attempted an exposition of what we consider to be the essential features — the broad structure — of Commons' thought. Yet, a few further observations may be in order, regarding issues implicit in it.

The interest in social control, for example, runs deep in Commons' thought. This, I take it, is one of the basic reasons for the combined legal and economic analysis. When he was called upon to assist in the drafting of bills for the legislature he found that they not only had to meet the requirements of soundness in economic analysis, but that they must also be held reasonable by the courts. And he noted that either action by a legislature in regulating the terms of contracts or collective action by a trade union regarding the conditions of employment might be considered an infraction upon the liberty or the property of the employer. In the American political economy such infringement must be done within the "due process of law" which is judicially determined.

The relating of the analysis to both legal and economic premises, then, is essentially a method of trying ends and means, form and content together. It makes possible practical judgments on what to do in actual affairs. Evidently Commons' mind could find no rest by merely pointing out ends, or goals that might be achieved. Whatever visions of

the ideal he may have projected, there is the persistent attempt to deal correlatively with the means of realization.

Correlative with this, is Commons' conception of causation. The strategic or limiting factor once controlled is the cause of the new state of affairs.[46] "In nature, things merely 'happen'. But out of the complex happenings, man selects the limiting factor for his purposes. If he can control these, then other factors work out the effects intended. The 'cause' is volitional control of the limiting or strategic factors through managerial or bargaining transactions. The 'effects' are the operations of the complementary factors and the repetition of routine transactions."[47] This is the causal relation in purposive human behavior — which purpose is, in part, to modify, to control the social processes. Strategic becomes literally strategy.

These elements combine to give an interpretation and emphasis which are unusual. The "economy of the mind" which Commons practices requires attention to the strategic or limiting factors. It seems a reasonable inference that these conceptions of causation and control are basic to the selection of the transaction as the basic unit of investigation. It is just where the wills of men meet that controls can be exercised. The transaction is the strategic nexus of social actions. Also, since physical possession follows legal control, then attention can be centered on the latter.[48]

If these be reasonable interpretations of Commons' approach, they raise basic questions regarding the treatment of property by economists. Commons' long attention to property relations, appears to me to be rooted in two deeper issues. He appears to accept the process approach as necessary in social analysis. In short, social facts are social only if taken in the sequential setting.[49] Secondly, he is attempting to make an analysis relevant to democratic social control. The question which his analysis presents here is precisely this: If economists are to make their analyses relevant to the problems of social control, do they not have to include the study of property?

Commons' pioneer work on administrative commissions may also serve to illustrate his attention to planning and control. One can almost sense on every issue that Commons is attempting a formulation that will be relevant to the decisions which some strategically placed person must make — such as judge, legislator, governor, or especially the head of an administrative commission. It is natural, then, that Commons' theoretical writing should be at its best in his discussion of these commissions. Here one can see how his insight into the history of social thought, the decisions of the courts, due process of law, social conflicts, social efficiency, and the psychology of laborers and business executives all blend into what might appear superficially to be simple suggestions regard-

[46] Mead has expressed a similar view. "Generally, it [cause] is some condition which can be changed in order to bring out a different result." G. H. Mead, *Movements of Thought in the Nineteenth Century* (University of Chicago Press: 1936), p. 277.

[47] *Institutional Economics*, p. 632.

[48] The conception of cause appears to explain the method of analyzing the history of economic thought, which so puzzled Lerner in his review of *Institutional Economics*: first one issue and then another has become strategic in the development of economic thought. The man who resolved the difficulty was accepted by Commons as a "pioneer of insight." In this way, for example, MacLeod is placed on a par with the great masters because of his insight into the significance of property as the subject matter of economics. Lerner, *op. cit. Harvard Law Review*, Vol. 49, p. 632.

[49] Cf., John Dewey, *Logic*, Henry Holt and Company (New York: 1938). Chapter XXIV, esp. pp. 501-2 for critical comments on this point.

ing what to do next.[50] Administrative commissions are held to represent the emergency of a fourth branch of government — a fact-finding branch empowered to make investigations into the conflicting claims of the various interests, to gather facts according to a procedure conformable with the due process requirements of the law, all for the purpose of determining a reasonable course of action between wide possible extremes, in the use of governmental powers within the economy.

This system of theory Commons has worked out by means of his participation in social affairs. He has referred to it as a compass which has enabled him to find his way through the maze of conflicting situations which he has experienced. It is, then, a general theory and he has wrestled with the fundamental problems of definition which make possible the movement of thought from one aspect of experience to another. This problem cannot be discussed here; but it may be noted that Commons' basic categories are inclusive. All acting is performance, avoidance, or forbearance. All institutions are collective action in control of individual action. All transactions are bargaining, managerial, or rationing. This persistent effort to find the similarities beneath the differences appears to be implicit in his attempt to build a theory out of analyses of actual social relationships. For society is no truncated affair. Stern necessity requires that the inherent conflicts shall not tear it apart; it is continuous through achieved cooperation, conjoint action, communication and institutions. Thought can deal with this range of problems only by a theory which embraces the basic issues involved.

Commons nowhere suggests, so far as I know, that all economic analysis should follow the pattern of his own thought. It is fundamentally a question of purpose. There are many problems where detailed analyses of the structure of social action are not necessitated; studies of velocity of turnover, in Commons' thought, or the calculations of the influence of quantity on price, may stand as examples. The significance of Commons' thought in this context appears to me to be in showing a possible way of moving from the problems where a mechanical, marginal analysis approach is fruitful to the broader questions of social organization, valuation, conflicts and control. Furthermore, these are the problems which now threaten civilization and present the great challange to social thought. For those who seek insight and inspiration in dealing with them, Commons' work may be a treasury of suggestions. His thought is complex and difficult. His writings report the reflections of an exploring mind in search of the fundamental relations in social life, not a mind expounding the implications of assumed basic propositions.

[50] Cf., *Institutional Economics*, pp. 840-873; *Legal Foundations*, especially pp. 354 to 356; also "Legislative and Administrative Reasoning in Economics," *Journal of Farm Economics*, May, 1942, pp. 369-392.

**EDITORIAL POSTSCRIPT**

*"It is a magnificent analysis and summary . . . I feel Parsons has done very much indeed to clarify my arguments with which I have struggled back and forth these twenty years."* John R. Commons, after reading the above manuscript.

# Future of Private Forest Land Ownership in the Northern Lake States *

*By* CHARLES H. STODDARD, Jr.**

THE future of private forest ownership in the Northern Lake States is an important problem that has received but scant attention from technician and planner alike. Despite large-scale land acquisition by various public agencies, 31,500,000 acres, or 60 per cent, of the forest land of the region is still in some form of private ownership. The economical use of resources and consequent employment pattern of the future both hinge in large degree upon the management of these lands.

In addition to the resource and welfare factors, the organization and functions of local government are vitally affected. Although valuations have declined drastically in the last decade, wild lands still are an important part of the tax base in a region where local government has faced serious financial difficulties. In addition, lands abandoned to public authority in two of the states, Minnesota and Wisconsin, must be managed in part, at least, by counties. Widespread tax delinquency in recent years has forced these counties to assume new and difficult land administration activities that will be seriously aggravated if the remaining private lands are abandoned.

It is important, therefore, to appraise the factors affecting private ownership in the region to obtain some clue as to trends in this form of tenure. Very little information has been developed to show how, why and when present owners acquired their lands, what types of owners there are and how much land they control, what use they make of them, how they manage them, and, finally, what factors have influenced their present attitude and future plans toward their lands. Of interest also are the implications which the present ownership pattern may have on public policies.

So much has been said and written about the "forest owner" by foresters and others that special attention was given in this study to an analysis of this group. A recent publication entitled "A Survey of Research in Forest Land Ownership"[1] attempted to bring together all available information on this subject. Probably the most significant thing about the report was the dearth of any research work specifically devoted to forest ownership. In practically all of the studies cited, this problem was taken up only incidentally in relation to some other purpose.

In order to probe the private forest land situation in the northern Lake States, an area in northwestern Wisconsin made up of five counties was selected for study. This area is fairly representative of a large part of the region in its basic economic and physical characteris-

* The term "forest land" as it is used here includes all wild lands not devoted to agriculture, urban or similar uses. Standing timber, second growth, cut-over, swamp, mineral lands and all other wild lands used or unused have been considered as forest land. Most of the more intensive uses of wild lands (recreation, mining, fur farming, cranberry farming, fish rearing, etc.) usually are carried on in limited strategic areas and the balance of the land in a particular ownership is primarily suitable for forest production. All lands within these categories and outside agricultural or urban areas have been considered in this study.

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[1] Report of a Special Committee on Research in Forest Economics, Social Science Research Council, prepared by E. S. Meany, Jr., New York City, 1939.

tics.[2] Forest land makes up about three-fourths of the area, but only 10 per cent contains merchantable saw timber; and only about 20 per cent is in cordwood stands, of which only a part is merchantable. The remainder is either deforested or covered with a small forest growth.

One-half of the forest area is in private ownership, of which four-fifths consists of scattered wild land tracts and the remainder is in farm woodlots. The bulk of the public forest land is in National Forests (25 per cent) and in county ownership (20 per cent), about half of the latter being administered co-operatively by the county and state under the Forest Crop Law. About 4 per cent is in Indian Reservations. A small additional acreage is held by the state. The majority of sawtimber is in fairly well-blocked tracts owned by large private corporations and is now being rapidly liquidated. Less than one per cent of the privately owned land is entered under the Forest Crop Law. Farm woodlots contribute but little to farm income and are deteriorating due to lack of constructive management. During the period from 1936 to 1940 the annual cut of sawtimber was about one and one-half times the annual growth and three and one-half times the quantity that can be cut without jeopardizing future growth (allowable drain).[3]

### *Procedure*

Of a total 1,516,329 acres of forest land in private ownership, 285,000 have been tax delinquent for five years and are subject to immediate seizure by the counties. Another 500,000 have been delinquent from one to five years. Past experience shows that the major portion of lands in long-term delinquency as well as much of the land in short-term delinquency, has ended up in public ownership. Taxes were paid in 1941 on the net remaining balance of about 750,000 acres. Questionnaires were sent to owners of this latter group of lands partly because of the difficulty of obtaining accurate names and current addresses of owners of tax delinquent acreages. The data presented in the following sections apply mainly to those lands now paying taxes (1941).

Most private forest owners reside away from their lands and it was decided, therefore, that a mail questionnaire would be the most economical means of securing adequate coverage. Because much of the forest land is tax delinquent and of uncertain ownership status, questionnaires were mailed only to those owners who had paid their taxes for 1941 and whose names and addresses were legible on the tax receipts. Owners who held less than 35 acres of forest land or who paid taxes to the country treasurer after March 1 were not sent questionnaires. Because circularizing the large numbers of local owners holding small tracts would have created a great deal of additional work without producing commensurate results, it was decided that questionnaires would be sent only to one in three.[4]

The forms sent out included questions designed to bring out information on the following points:

[2] For detailed study of the area, see "Area Analysis of Northwestern Wisconsin," W. F. Musbach and Associates, Bureau of Agricultural Economics, U. S. Dept. of Agriculture, October 1941.

[3] From data developed by the Forest Survey of the Lake States Forest Experiment Station (U. S. Forest Service).

[4] While it is recognized that these limitations introduce a bias by excluding some local owners and tax delinquent owners, it should be pointed out that the study makes no attempt to obtain a quantitative measurement of the different classes of landowners, but merely a qualitative analysis of the different forms of ownership.

(1) Acreage and location, by county, of land owned.
(2) Length of ownership.
(3) Method of acquisition (sale, inheritance, tax deed, other).
(4) Purpose in owning (for resale, timber production, recreation, mineral, or other uses).
(5) Owners' estimate of best use for land.
(6) Owners' interest in forestry.
(7) Attitude toward public assistance leading toward establishment of better forest management.
(8) Plans for cutting timber.
(9) Residence and supervision over land.
(10) Information as to relative contiguity of parcels held.
(11) Miscellaneous comments offered by owners.

Of the 1008 questionnaires that were mailed to listed landowners, 492 representing 219,772 acres were returned. Only 272 owners failed to reply, 169 were returned undelivered, and 75 were returned incomplete or were received too late for tabulation. Due to an absence of data classifying all private lands into ownership classes and important land uses, it was not possible to determine what proportion of these were represented by the returned questionnaires. However, because of the number returned it was felt that each of these groups was sufficiently well represented to provide a reasonably good cross-section.

### *Origins of Present Ownership Patterns*

The past decade has witnessed the completion of an 80-year cycle in which the federal government turned nearly all of the public domain in northern Wisconsin over to private ownership only to have much of it return to public ownership. Filibert Roth[5] in 1897 found that 67½ per cent of the land in 27 northern counties belonged to large lumber and land companies and railroads, and 24 per cent to settlers. These lands had been obtained through the various land laws including the Swamp Land Act, Railroad grants, Homestead Act and direct sale. The boom in lumbering that began after the Civil War and continued up to World War I opened up large areas of cutover lands for sale to settlers and speculators. By 1925 the speculative market was on the wane due to the marginal character of much of the land and the post-war agricultural reversal. Tax delinquency, which had caused some concern before this, increased rapidly and forced many county governments into serious fiscal difficulties.

The growing realization that some form of non-agricultural land use was most appropriate in the cutover region and that agricultural possibilities were distinctly limited led to the enactment of the Forest Crop Law by the state, establishment of National Forest purchase units and county forests, fire protection systems, county zoning ordinances, and substantial state aids to local governments during the 1925-1935 decade.

Privately owned forest land has decreased significantly both in area and importance from 1927 to 1936 in these five counties. The acreage assessed as cutover, marsh and timber land dropped from 3,394,000 acres to slightly less than 2,000,000 acres during this period while the assessed values dropped from around 38 million to 9 million dollars.[6] Table 1 shows the distribution of all forest land ownership according to major public and private groups in 1940.

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[5] Filibert Roth, *Forests of Wisconsin.* Wisconsin Geological and Natural History Survey, Bul. No. 1, Economic Series No. 1, Madison, Wisconsin, 1898.

[6] Local Government Study in Wisconsin, 1927-1936, Vol. 1, *Assessments and Levies,* Wisconsin State Planning Board, Bul. No. 13, March, 1941.

TABLE I. DISTRIBUTION OF FOREST LAND OWNERSHIP IN FIVE NORTHWESTERN WISCONSIN COUNTIES, 1940.

| | Ashland | Bayfield | Price | Sawyer | Taylor | Total |
|---|---|---|---|---|---|---|
| Acreage in county[a] | 663,680 | 943,360 | 811,520 | 835,430 | 605,850 | 3,859,840 |
| Open agricultural land[a] | 87,236 | 124,469 | 163,535 | 101,417 | 278,703 | 755,360 |
| Acreage in forest land[b] | 576,444 | 818,891 | 647,985 | 734,013 | 327,147 | 3,104,480 |
| Acreage in farm woods[a] | 46,043 | 77,327 | 58,711 | 28,077 | 60,569 | 270,727 |
| Private Forest Crop | 3,045 | 1,267 | 2,367 | 3,630 | 1,052 | 11,361 |
| Other private forest land (estimated) | 208,855 | 271,952 | 263,372 | 370,840 | 119,222 | 1,234,241 |
| Subtotal private forest land | 257,943 | 350,546 | 324,450 | 402,547 | 180,843 | 1,516,329 |
| County forest (under Forest Crop Law)[c] | 27,784 | 130,088 | 64,903 | 71,266 | 13,820 | 307,861 |
| Other county lands[c] | 49,320 | 79,880 | 106,880 | 63,760 | 19,480 | 319,320 |
| State forest[c] | ..... | ..... | ..... | 20,710 | ..... | 20,710 |
| Other Conservation Com.[c] | ..... | 161 | 277 | 320 | ..... | 758 |
| State Land Commission[c] | 3,752 | 1,245 | 18,467 | 9,870 | 2,043 | 35,377 |
| National Forest[c] | 170,885 | 250,371 | 133,008 | 118,900 | 110,961 | 784,125 |
| Indian Reservation[c] | 66,760 | 6,600 | ..... | 46,640 | ..... | 120,000 |
| Subtotal public lands | 318,501 | 468,345 | 323,535 | 331,466 | 146,304 | 1,588,151 |

(a) U. S. Census.
(b) Includes small acreages of urban lands for which no data are available.
(c) "County Land Management," Wm. F. Musbach and Sidney Henderson, *Wisconsin Counties*, June and July, 1942.

### *Ownership Classes and Sizes of Forest Land Holdings*

The sample of forest ownership is classified in Table II according to types of owners.

Forest land ownership is concentrated in 27 corporations which own slightly over half of the total land. The average holding of this class of owners was 4,262 acres, although the four largest tracts, totalling 88,000 acres, range in size from 8,000 to 40,000 acres. Timber companies own the bulk of the land in the corporation group, but one owner in the miscellaneous class controls about 25,000 acres.

The remainder of the forest land is owned largely by 445 individuals whose tracts average only 227 acres, or about 5 per cent of the corporation average. Small acreages are controlled by 20 nonprofit recreational organizations

Most of the ownership classes are self-explanatory except the local individuals. This group consisted partly of farmers and partly small-town residents who held lands for a variety of reasons indicated later in this paper.

It should be pointed out that the larger concerns have followed the policy of selling off small parcels after an area has been logged. This practice has resulted in breaking up large forest units into tracts too small for efficient forest management. Many of the small-sized tracts are held for recreational purposes or used as farm woodlands. Nevertheless, the breaking up of larger tracts into many smaller ownerships has tended to render numerous areas into units too small for economic forest operations, even though these units have not been and probably will not be put into any other use.

### *Trends in Methods of Acquisition and Purposes of Ownership*

Present owners with a very few exceptions acquired their lands through purchase, inheritance and exchange. Only a half dozen individuals and none of the corporations who acquired their lands directly from the government under the various land laws still hold title to them. An analysis of the methods of acquisition by ownership groups indicates that direct purchase from another individual or corporation accounted for about 71 per cent of the land, or 157,000 acres. The 5 per cent of the land acquired by tax deed or inheritance is held by 12.6 per cent of the owners — most of whom are private individuals. Except for several thousand acres inherited by one land company, and 1,500 acres obtained from the counties through tax deed by recreational clubs, both the corporations and the other group-owners obtained their holdings by direct purchase.

Direct purchase from other private owners continues as the most important method among both recent and long-term owners. Acquisition by inheritance accounts for a significant proportion of the land held for more than 15 years but is a negligible factor in recent title transfers, whereas purchase of tax title has had the opposite trend. Other means of acquiring title, such as exchanges, foreclosures, and homesteading, are important among those owners who have held title more than 15 years, but they are of only minor significance among recent owners.

TABLE II. NUMBER AND TYPES OF OWNERS IN SAMPLED PRIVATELY OWNED FOREST TRACTS IN FIVE NORTHWESTERN WISCONSIN COUNTIES, 1941.

| Class of ownership | Acreage | Per cent | No. owners | Per cent | Average acreage |
|---|---|---|---|---|---|
| *Corporations:* | | | | | |
| Operating timber companies | 54,640 | 25.1 | 11 | 2.2 | |
| Real estate concerns | 15,791 | 6.7 | 8 | 2.0 | |
| Miscellaneous corporations | 44,640 | 20.4 | 8 | 1.6 | |
| Subtotal | 115,071 | 52.2 | 27 | 5.8 | 4,262 |
| *Individuals:* | | | | | |
| Local (living within 50 miles) | 37,960 | 17.3 | 168 | 34.0 | |
| Non-residents (living more than 50 miles) | 51,969 | 23.7 | 267 | 54.5 | |
| Estates of deceased persons | 11,045 | 5.1 | 10 | 2.2 | |
| Subtotal | 100,974 | 46.1 | 445 | 90.7 | 227 |
| *Miscellaneous group owners:* | | | | | |
| Recreational clubs | 3,647 | 1.6 | 19 | 3.3 | |
| Churches, lodges, etc. | 80 | .1 | 1 | .2 | |
| Subtotal | 3,727 | 1.7 | 20 | 3.5 | 186 |
| Total | 219,772 | 100.0 | 492 | 100.0 | 450 |

TABLE III. NUMBER AND CLASSES OF PRIVATE OWNERS OF FOREST LAND IN RELATION TO ACREAGES HELD FOR DIFFERENT PERIODS OF TIME, FIVE NORTHWESTERN WISCONSIN COUNTIES.

| Class of ownership | 0 - 5 years | No. owners | 5 - 15 years | No. owners | 15+ years | No. owners | Total acres | Number |
|---|---|---|---|---|---|---|---|---|
| | *Acres* | | *Acres* | | *Acres* | | | |
| *Corporations:* | | | | | | | | |
| Operating timber companies | 680 | 2 | 10,220 | 4 | 43,740 | 5 | 54,640 | 11 |
| Real estate concerns | | | 120 | 1 | 15,671 | 7 | 15,791 | 8 |
| Miscellaneous corporations | | | 25,080 | 2 | 19,560 | 6 | 44,640 | 8 |
| *Individuals:* | | | | | | | | |
| Local (farmers, loggers, etc.) | 8,354 | 53 | 14,912 | 60 | 14,694 | 55 | 37,960 | 168 |
| Non-residents | 8,114 | 58 | 22,075 | 89 | 21,780 | 120 | 51,969 | 267 |
| Estates | | | 5,660 | 5 | 5,385 | 5 | 11,045 | 10 |
| *Miscellaneous group owners:* | | | | | | | | |
| Recreational clubs | 1,223 | 10 | 1,360 | 5 | 1,064 | 4 | 3,647 | 19 |
| Churches, lodges, etc. | | | | | 80 | 1 | 80 | 1 |
| Total | 18,371 | 123 | 79,220 | 166 | 121,974 | 203 | 219,772 | 492 |
| Per cent in each group | 8.4 | 25.3 | 36.2 | 33.7 | 55.4 | 41.0 | 100.0 | 100.0 |

Correlation of owners' original intentions with length of tenure indicates that most of the present owners who purchased land before 1926 did so mainly for resale as agricultural land and to a lesser extent for timber, mineral or other values. More recently, wild lands have been acquired primarily for recreational and such special uses as fur farming, cranberry production and trout rearing. This information coincides with the several surges in land transfer activity of the past 25 years. Until the middle 1920's timber development and farming on cutover lands were considered to be the principal values in northern Wisconsin lands. As the fires raged and the remaining large stands of timber were cut, and when agriculture failed to develop as expected, attention was turned to recreational and other possible developments. Since these latter uses are primarily confined to relatively small tracts of strategically located land, the reasons for the decline in acreages acquired during the past five years as compared with those purchased earlier are quite apparent.

Table III shows that about 55 per cent of the land held by 41 per cent of the owners has been owned continuously for more than 15 years. Another third of the owners controlling about a third of the land have held title from five to fifteen years; whereas the remaining one-fourth of all owners acquired their lands within the last five years and possess somewhat less than 10 per cent of the acreage.

The earlier interest in cutover land speculation and timber is apparent in the rather large proportion of land held over from the period when these factors dominated the land market. Likewise, the large number of owners who acquired a relatively small acreage of land in recent years is a reflection of the limited areas involved in recreational uses.

*Objectives of Present Owners*

The previous section indicated that a relatively large proportion of the land has been continuously owned for more than 15 years. In order not to confuse long-term ownership in this case with stability of tenure, the purposes for which each owner acquired his land have been determined. Much of the land held for more than 15 years was obtained for timber and resale purposes and is a residual of a much larger acreage which has been logged off or was dropped for taxes when the boom in cutover land subsided. Most of the present long-term owners of non-recreational lands hope either to cut off the timber or to sell their lands. Almost none of them contemplates managing for future forest production. Many owners felt that because their tracts are located inside public forest or zoned areas and are generally inaccessible there appeared to be little opportunity for agricultural development. Thus the apparent stability of ownership is largely due to the inability of present owners either to sell or to log off the timber rather than to a favorable economic and institutional pattern.

Few people feel that their lands now have farming potentialities, but most of those who still hang on have hopes of selling for enough to cover original cost and taxes. A majority of the non-resident individual owners are business and professional people who have been able to afford payment of taxes in spite of the absence of any income from their land.

Unfortunately in this study no specific information was obtained on the original objectives of the present holders in acquiring their lands to measure any changes in objectives, but this gap may be filled in part by some clues given in the questionnaires. The questionnaires reveal that 35 per cent of the owners are holding 35 per cent of the total acreage of land for sale. Although about 18 per cent of the owners are using 35 per cent of the land for the timber on it, less than 5 per cent of the acreage sampled is being held solely for permanent forest production. Another large group of owners (28.8 per cent), holding only 8.2 per cent of the acreage, feel that recreational uses are best adapted to their lands. Fourteen per cent of the owners, holding only 5.7 per cent of the area, think their lands are primarily of value for agricultural uses. The remainder is held by the owners for fur farming, fish hatcheries, cranberry marshes, mining, some other specialized use, and, in three instances, for sentimental reasons.

More acreage owned by individual resident and non-resident owners is being held for sale than for any of the other purposes given. Timber and farm development compete for second place in importance on land held by resident owners followed by recreational and miscellaneous uses. Non-residents are interested largely in selling but put recreation in second place with timber, farm development and miscellaneous uses following in the order given. With one exception, all estates of deceased persons are being held for ultimate sale. Group owners such as clubs, lodges and church organizations, intend to use their land primarily for recreational purposes. Ninety-six locally owned tracts, covering about 4,000 acres, are owned by farmers as woodlots. Another 3,200 acres are held by local owners for recreational reasons. The remaining locally owned areas are being used for timber production on a short-term basis.

The ten wood-using concerns purchased their lands as a source of raw material. Most of these timber tracts are a residual of extensive holdings acquired originally for the same purpose, by fore-

runners of the present companies, directly from the federal government or from railroad grants, homesteaders, or other recipients of government land. Only one large concern in the area was definitely planning on continued forest management. The rest planned to liquidate their timber investment.

The land companies are mainly of two groups: Those set up to dispose of cutover lands to settlers and those still holding standing timber which is gradually being sold off. The former group of companies are a residual held over from the land boom of a generation ago and are nearly out of the picture. Both groups are in the business of liquidating land values and were set up primarily as speculative ventures.[7]

Banks and other financial institutions do not own any appreciable area of forest land, possibly because very few loans were made originally by them in this area. In several cases banks have dropped their lands for taxes after abandoning any hope of selling them. Six other types of corporations control about 45,000 acres. The remaining corporate owners include mining companies, cranberry companies, fur farming concerns and several other corporations which are apparently involuntary owners.

Non-resident individuals purchased their lands for such reasons as for resale as agricultural lands and for summer home and resort sites or to develop farms themselves. A number of city people purchased wild land with the original intention of having a "depression refuge" but very few indicated that they had carried out any development in this direction. The local owners, about equally divided between farmers and townspeople, appeared to be interested primarily in practical forest uses such as sources of timber, fuelwood, or maple sap products; in speculation; in developing new farms from wild land; and in recreational property. Much of the land held for resale had been acquired either for some purpose other than forestry, although in many cases the expected use did not develop, or it was acquired for timber and then cutover. Because forest management does not look attractive financially to most owners of non-recreational land, they hope to sell to someone else. Further correlation of period of tenure with purpose in ownership shows that most of the land purchased fifteen or more years ago was acquired by non-residents for timber and speculation in fairly large tracts. More recently, local people have picked up small parcels for timber or farm development, whereas non-residents have been mainly interested in recreational lands.

This information should aid in clearing up some common misconceptions about the "forest owner." Instead of being individuals engaged in the production of timber crops, it is apparent that owning groups include liquidating timber companies, real estate speculators, summer resort operators, non-resident recreationists, farmers, mining and fur companies and many others. It is thus apparent that each of these has drastically different attitudes and intentions for using forest lands; these attitudes are influenced both by the particular kind of owner and the inherent values of the land.

### *Management and Supervision of Private Forest Lands*

To the casual observer driving through the north it is apparent that there is very little orderly development on the wild

[7] J. D. Black and L. C. Gray, *Land Settlement and Colonization in the Great Lakes States*, U. S. Dept. of Agriculture Bulletin 1295, 1925.

lands in private ownership. In fact, most merchantable second-growth stands which have escaped fire are being cut over again in much the same manner as the original timber. Many private owners have ceased paying taxes on their lands and have thus admitted a lack of interest in continued ownership. Yet much hope has been held by foresters and others that private forestry would expand to the point where larger areas of land would be used for the production of timber by private owners.

Since most forest lands are isolated from communities and are seldom developed sufficiently to support full time residence, very few owners live permanently on their lands. Exceptions, of course, are farmers with woodlots adjacent to their farms and recreational owners who indicated only seasonal residence. None of the individual owners of scattered forest lands without farm or recreational development maintained residences. Several of the operating timber concerns and logging contractors had temporary camps.

Sixty-two per cent of the owners controlling 70 per cent of the land indicated that they exercised some form of direct supervision — either through permanent caretakers, personal supervision by the owner himself, or occasional visits by nearby farmers or other local residents. In all ownership classes except the non-resident non-recreational individual owners, a distinct majority provided for regular attention to their lands.

All owners were separated into *active* and *inactive* except where no information was available to provide a basis for judgment. *Active* owners include all those who have begun (or were about to begin at the time the questionnaires were received) any forestry or logging undertakings, or who have developed fur farms, trout hatcheries, etc., or have cut timber. The construction of recreational buildings was not included as an indicator of active ownership because this factor is in a special category and involves very small areas of land.

Forty per cent of the owners controlling 61 per cent of the land indicated that they were carrying on some form of active use. This area figure over-emphasizes the intensity of use carried on in a few relatively large corporation holdings since only a part are being logged or otherwise used. A slightly smaller number of people (38 per cent) owning only half as much land (31 per cent) have been classified as *inactive*. Most of these latter are either non-resident speculators or owners of recreational tracts upon which no land management activities other than the construction of recreational buildings have been undertaken. Insufficient information is available to classify the remaining 22 per cent of the people who own 8 per cent of the land.

Data developed from the cover maps published by the Wisconsin Land Economic Inventory, Madison, Wisconsin, and questionnaires showed almost 140,000 acres of timber. Twenty-two per cent of the owners who own 52 per cent of the timberland are planning to cut under ordinary commercial practice (clean cutting), while 20 per cent of the owners with 9 per cent of the timber will probably log their lands by means of partial cutting methods. Fifty-eight per cent of the owners holding the remaining 39 per cent of the area of timber have no present (1941) intentions of cutting, although those with non-recreational lands will probably sell their stumpage with a continuance of high prices. It should be pointed out that almost three-fourths of the area planned for cutting is owned either by operating timber companies, nearby residents or farmers; and that the area on which no cutting is planned is

largely held by non-resident individuals, land companies and railroads, and much of it is recreational land.

Because the primary use of these lands is forest production (except in strategic recreational and special use locations) one item was included in the questionnaires to find out whether the owners were interested in some form of forest management assistance. Although the wording of the question was explained in some detail in the accompanying letter, the response showed some confusion in a number of cases. In spite of the fact that 24 per cent of the owners did not appear to understand the question, it is significant that 22 per cent of the owners (34 per cent of the area) showed a definite interest in forest management assistance through some form of cooperative association of forest owners. Fifty-four per cent of the owners (with 42 per cent of the land) did not seem to feel that any such form of organized assistance would be of any value to them. Of those understanding the question, only about one-fifth of the corporate owners appeared to be interested, whereas both resident and non-resident individuals were almost evenly divided on this question. The relatively large number of uninterested peole is a definite reflection of the unstable tenure status of the land.

The above data give only a partial clue to forest land owners' attitudes and activities but can be supplemented with additional comments given on the questionnaire forms. Among the factors influencing owners' decisions on forest management are the following:

(1) Familiarity or lack of knowledge regarding cutting, transportation and marketing of forest products.

(2) ) Proximity of residence to land in order to permit regular supervision over management operations and harvesting forest products.

(3) Relative returns from time expended in management of forest lands as compared with other regular occupation of owners and risks involved.

(4) Size of holdings, value and amount of merchantable timber and relation of taxes, interest and other carrying charges to annual or periodic incomes.

Most of the owners except the timber companies, a few local timber operators and farmers, had very little information on how to manage their lands or even sell off the timber. Some of the owners of recreational tracts indicated a distinct dislike of present logging methods and most of them preferred to have no cutting at all on their own lands. Apparently they were not aware of the possibilities in forestry practices but showed some interest in the idea. Almost a dozen owners volunteered the suggestion that some form of control should be exercised by public agencies to prevent forest destruction. Several even assumed the existence of such a law and expressed surprise over lack of enforcement. Owners of scattered non-recreational tracts are primarily interested in selling their lands, timber or both, but in general have little knowledge of timber prices or how to proceed. Consequently, they are dependent upon local timber buyers for sales and are usually at a disadvantage in price bargaining. Most non-residents showed little knowledge about timber volumes, products from and prices for different species, distance to markets and logging methods and all other factors influencing timber values.

Forest lands, unlike farms which are operated by experienced farmers, are usually owned by people unfamiliar with forestry business. Exceptions, of course, are the timber companies and logging contractors. Most of these latter are primarily interested in returns from liquidating the resources rather than long-

term management. One of the most important factors influencing forest management on private holdings is the fact that efficient logging requires a fairly large labor force and a considerable investment in equipment which cannot be depreciated over short periods. On the other hand, farming operations can be carried on continuously by the resident farmer with his own equipment and very little hired help. This enables him to obtain labor income as well as some of the entrepreneurial profit. Most of the owners of small tracts of timberland (except farmers) either must sell their stumpage direct to a logger, or hire their labor and supervise their operations thereby losing out on the labor income but having a chance of making the operating profits; or they must hire a contractor to do the whole job and very likely will receive only the stumpage income which is usually rather small.

The acreage in each unit may have some influence on the forest policy decided upon by the owner, depending of course on ownership objectives. In a previous section it was shown that about 90 per cent of the owners had tracts averaging 225 acres in size. The determination of whether an operating unit is of economical size depends to a large extent on the type of forest enterprise and amount of fixed overhead, size and condition of the timber, whether logging equipment is owned or contracted through a jobber, whether a clean-cutting or sustained yield program is planned, and available markets. An economical liquidating operation may need only enough timber to permit the cutting of a few truckloads of pulpwood or to permit the construction of lumber camps for logging of several sections of land in one season. An industry using 5 or 10 million board feet annually might have to have a sustained-yield tract of 30,000 acres in order to produce this volume of annual growth as well as to permit efficient distribution of overhead and depreciation costs.

It is difficult to make any general appraisal of the sizes of the units in the five counties in terms of economic use of labor and equipment except to say that even the large tracts owned by lumber and paper companies are not large enough to produce an annual growth sufficient to keep the dependent industries operating anywhere near capacity. In some cases, paper mills in other parts of the state have acquired a few thousand acres as an emergency backlog which they are able to operate periodically through the use of hired logging jobbers. Practically no evidence was obtained to show that any private owners are acquiring lands in this five-county area for the purpose of blocking into economic units. In several other parts of the state several concerns are actively engaged in managing privately owned forests but there is no evidence to indicate that any very large areas will be utilized in this manner within these five counties. Very few of the owners in any class, other than some of the farmers, had any experience in forest management except 8 or 10 people who have carried on various forestry activities primarily as hobbies rather than commercial ventures.

### *The Forest Crop Law*

At the time the Forest Crop Law was passed conservationists felt, and timber owners were believed to have felt, that fire and high property taxes were the big stumbling blocks to sustained forestry production on private lands. The assumption was implied that removal of these obstacles would automatically produce the desired results. The Wisconsin Forest Crop Tax Law was passed and a large number of entries were made at

first. However, very little or no effort was made by the state to extend technical assistance to these owners. Meanwhile, property taxes have been dropping due to both lower valuations and reduced tax rates, thus erasing much of the initial advantage to the owner in the law when taxes were considerably higher.[8]

New entries of private lands have been falling off markedly in the past few years and many old entries have been withdrawn or let go for taxes. Several of the owners now feel that the difference in favor of the Forest Crop Law is so small that the "red tape" and the requirement that the lands be open for public hunting and fishing grounds make it more bothersome than it is worth. Thirteen years after its enactment only 11,361 acres under 22 ownerships are entered under the Law in the five counties. Only six of these owners, holding 2,400 acres. returned the questionnaire forms. These were reasonably representative of the different kinds of ownerships so that the conclusions drawn are applicable to the others. Much of the land entered under the Law is held by several land companies while the remainder is in small tracts held by individual owners. None of the operating timber companies have any lands entered at present in this area although some of them entered lands earlier and have since withdrawn. No significantly greater awareness nor understanding of forest problems was indicated by these owners as compared with all other owners.

None of the owners mentioned any interest or activity in forest management and several implied that tax reduction was their sole motive for entry. Forest land capable of producing a net income varying from 25c to $1.00 per year still is paying very heavy taxes when it pays 10c per acre and 10 per cent on the timber yield under the Forest Crop Law.

That the Forest Crop Law has not been particularly successful in inducing better forestry practice by private landowners in these five counties seems to be the obvious conclusion. The "Reforestation by Private Enterprise" part of the program of Wisconsin conservationists has not fulfilled the expectations held out a decade ago.

### *Characteristics of Forestry Enterprises*

Some of the comments included by the owners on the questionnaire form provide some insight into attitudes toward private forests as investments. These were difficult to classify or evaluate since they are random observations, but are listed below because they represent some revealing judgments on the part of persons whose actions are strategic in the future economy of the area. Most owners who appear uninterested in private forestry as a permanent venture based their comments on one or more of the observations along the following lines:

(1) Too large an amount of capital needed.

(2) Slow growth and low interest rate.

(3) Slow turnover of capital.

(4) Lack of dependable markets and credit facilities for going forest enterprises necessitate clearing of timber to liquidate investment.

(5) Management and operating difficulties (especially in logging by absentee owners).

(6) Long periods between incomes.

(7) High degree of risk due to fire, insects, diseases, and trespass for which no insurance exists to cover losses.

[8] Philip M. Raup, "Forest Land Taxation in Wisconsin," unpublished ms., January 1942.

Those few owners who intended to keep their forest lands had practical reasons such as need for firewood, source of timber supply for an industry, or other uses, such as recreation. None mentioned any intention of continued ownership because of a desire to grow timber as a business proposition by itself.

### *Probable Trends in Private Forest Ownership*

Previous discussion has shown that stability and continuity of ownership vary according to objectives of owners as well as the inherent values in the lands themselves. Each tract represented in the questionnaires was carefully examined from all angles in an effort to predict its probable future use and hence ownership status. Timber, recreation, farm, mineral and other values were studied in detail and owners' estimates were compared with soils and cover data. The following comparison gives the results of this study:

TABLE IV. COMPARISON OF OWNERS' ESTIMATES WITH INDEPENDENT ESTIMATE OF BEST LONG-TIME LAND USE OF PRIVATE FOREST LANDS

| Estimated Use | Owners' Estimate | Independent Estimate |
|---|---|---|
| | *Acreage* | *Acreage* |
| Forestry only | 69,264 | 139,430 |
| Recreation and forestry | 53,151 | 50,294 |
| Farming and forestry | 30,166 | 19,098 |
| All others[a] and forestry | 67,191 | 10,950 |
| Total | 219,772 | 219,772 |

(a) Includes fur, fish, cranberry and some mineral areas.

This table indicates the rather optimistic attitude of a majority of the owners toward the potentialities in their lands. It is apparent that some rather large shifts in owners' attitudes are needed before they come to a realization of the actual values in their lands.

Lands likely to stay indefinitely in private ownership will include farm woodlands, lake and river frontage with adjacent acreage of recreational value, tracts held by industries with plans for continuous forestry program, miscellaneous areas of value for cranberry, fur and fish production, a few areas having agricultural potentialities, and lands with mineral values. Probable future needs for farm lands, even with some expansion, cannot be expected to bring much of this isolated stony and sandy land with short growing season into agriculture. Other potential values will be developed only when favorable circumstances permit. All other lands which have none of these features will probably go into public ownership either through purchase or tax default routes during the next several decades. Many owners indicated that a lack of income from these lands caused them to lose interest in continued ownership, and it is likely that those who are still hanging on will let go within a few years. If past trends are reasonably indicative, those tracts which still contain some timber may be purchased through tax title and stripped before finally settling in public ownership. These include cutover lands with little or no timber as well as timberland about to be cut over which have none of the particular attributes mentioned above. Much of this land already is in the long-term tax delinquency class.

Table V indicates the extent of this predicted shift among those lands represented in the questionnaire.

A further effort was made to estimate future ownership on all forest lands for both the area as a whole as well as the tracts included in this study. Although it was not possible to determine each ownership group in as much detail over the whole area as it was with the questionnaire study, sufficient information is

TABLE V. PRESENT AND PROBABLE FUTURE[a] OWNERSHIP OF FOREST LAND NOW IN PRIVATE OWNERSHIP IN FIVE NORTHWESTERN WISCONSIN COUNTIES[b]

| Present Status | Privately Owned at Present | | Privately Owned in Future | | Publicly Owned in Future | |
|---|---|---|---|---|---|---|
| | *Acreage* | *No.* | *Acreage* | *No.* | *Acreage* | *No.* |
| Located inside public forest units | 87,660 | 246 | 56,193 | 143 | 31,467 | 103 |
| Located outside public forest units | 132,113 | 246 | 36,776 | 182 | 95,337 | 64 |
| Total | 219,772 | 492 | 92,968 | 325 | 126,804 | 167 |

(a) During the next 10 to 15 years.
(b) Represented in questionnaires returned by 492 owners.

available to provide a reasonably satisfactory estimate as indicated in Table VI.

The trend toward a decreasing proportion of forest land in private ownership seems to be headed to the point where it will ultimately level off. Before this happens, 900,000 acres more of privately owned land will probably go into public control unless some unforeseen factors enter the situation. The residual privately owned forest land probably will be around 600,000 acres of which almost half will be in farm woodlands. Recreational lands, industrial holdings of a few thousand acres and miscellaneous other uses will make up most of the remaining 350,000 acres. Allowance has been made for possible increases in industrial holdings over and above those now in existence or contemplated.

Obviously the problem of public administration of large areas will become increasingly complex. Much of this land lies in public forest units and should fit well into existing organization. A larger portion, however, lies outside of present

TABLE VI. PROBABLE FUTURE DISTRIBUTION OF ALL FOREST LAND OWNERSHIP IN FIVE NORTHWESTERN WISCONSIN COUNTIES

| Ownership Status | Acreage 1941 | Estimated Future Acreage | Net Change |
|---|---|---|---|
| Farm woodlands[a] | 270,727 | 270,727 | None |
| Private commercial forest land[b] | 1,245,602 | 350,000 | − 895,602 |
| Subtotal private land | 1,516,329 | 620,727 | − 895,602 |
| National forests[c] | 784,125 | 951,125 | + 167,000 |
| State and county lands[d] | 684,026 | 1,332,628 | + 648,602 |
| Other public (mainly Indian) land[d] | 120,000 | 200,000 | + 80,000 |
| Subtotal public forest land | 1,588,151 | 2,483,753 | +1,113,903 |
| Total forest land | 3,104,480 | 3,104,480 | None |

(a) Assumes no net change in area of farm land.
(b) Assumes all long-term delinquent land, land company cutover land, non-mineral and non-recreational land will be dropped by owners—land left in private ownership will include mineral and miscellaneous uses, recreation and a few thousand acres in corporate ownership for long-term forest production.
(c) Assumes no further expansion of National Forest boundaries—data furnished by U. S. Forest Service on additional purchases within present boundaries.
(d) Assumes all lands not included in State or National Forests which are likely to go into public ownership will go into county and Indian forests.

public forest boundaries, often in scattered parcels, among farm or recreational lands. Difficult administrative problems already are arising from these patchwork holdings; and more study, and especially more administrative action based on present knowledge, are needed in order to resolve this situation satisfactorily. Such questions as improving state relationships in county forest administration through modification of present legislation, expansion of federal holdings outside present boundaries, fiscal policies used to aid local governments, all will need further thought if the increasingly large areas of publicly owned land are to be adequately handled.

The ultimate place of private forest ownership in these five counties appears to be a minor but possibly significant one both as a part of the tax base and in the production of timber. However, the problem of stopping continued overcutting and of establishing sound forestry practices on these lands, most of which will be in small scattered blocks and owned by a large number of individual owners, will continue to cause trouble until solved. The difficulties of technical direction, marketing, and logging which these owners face will have to be met by some sort of a centralized operating organization.

### *Summary*

Extensive areas of forest land in northwestern Wisconsin which were acquired originally by lumber companies have largely been depleted of their timber and sold off into smaller tracts. The purchases of these small areas were undertaken largely by land companies and non-resident individuals interested in farm lands, either for speculation or development. After the collapse of the speculative boom in the middle 1920's, there was a sharp drop in purchases by these groups. Half of the privately owned land today is held in essentially the pattern established before 1925.

Since then widespread tax delinquency has taken place, and much of the area is now in public ownership. Some has been sold to new owners interested mainly in residual timber values, recreational or special uses involving relatively small acreages. Few owners indicated much interest in holding their lands for long-term timber production. Those who did usually had some other primary interest in continued ownership which took precedence over forestry. This was mainly due to their lack of experience, distance from land, and general disbelief that the returns from forestry would be a sufficient reward for the time and effort involved. Consequently, only a negligible number of owners indicated that they were carrying on any forestry practices on their lands. A larger number indicated that they might be interested in having a group association undertake forest management for them. Most forest lands acquired prior to 1925 are held by involuntary owners who have been able to pay taxes out of other income and who have not yet made up their minds to let go.

The future of private forest ownership in the five-county area will be restricted chiefly to farm woodlots, recreational, special use and possibly several industrial holdings, amounting to a little more than one-fifth of all forest lands.

### *Suggested Problems and Directions of Adjustment*

With the probability that large areas of privately owned forest land will pass into public ownership in the future both in the area studied as well as other

portions of the Lake States, such problems of public concern as the increasing job of land administration, the prevention of complete destruction of residual timber values, development of long-range work plans and many others, will present themselves.

The counties and the states should examine their existing public forest programs to determine their adequacy under such conditions. Not only will there be an increase in the size and number of public forest units, but there will also be difficulties in administering small scattered tracts intermingled with privately owned farm and recreational areas. Wisconsin's present law providing for county forests will be inadequate to cope with the new situation due to limitations on the funds available for payment to counties as well as the relatively small administrative organization. Instead of merely expanding these, the state should give serious consideration to changing the present county forest organization to provide for more direct supervision of counties by the state.

If past experience is any measure, much of this land is likely to be stripped of its timber before it passes into public ownership. In order to avoid future expenses in forest land rehabilitation the state should seriously consider the enactment of legislation requiring minimum silvicultural standards.

Because so very little is known about proper forestry methods by the relatively permanent forest owners, the enactment of regulatory legislation might also have the effect of overcoming the inertia which has so far blocked their adoption.

The very active war timber market has encouraged many operators to buy up forest lands containing scattered patches of timber from owners who were dropping their lands for taxes prior to the war. As soon as the timber is cut or the market slumps, or both, large areas of land will again become delinquent and go into public ownership. The period immediately following the war will bring many of these problems to a head and will require courageous action for satisfactory solution.

Those lands likely to remain in private ownership need further study from two approaches. The counties should analyze those forest areas still in private ownership to determine their probable future use and status. Definite plans should then be made to take tax titles and plan for permanent public ownership on all lands not likely to remain in or suited to private uses whenever taxes become delinquent. Other lands more suited for private use and development and not needed for public use, such as certain recreational or other special private uses, should be sold only under deed restrictions requiring proper conservational use or leased under systematic supervision to strong owners who can give assurance of reasonably long tenure and constructive management. The County Agricultural Planning Committees might give serious consideration to such a classification of forest lands in their land-use mapping work.

These tracts likely to remain in private ownership will present difficult management and marketing problems to their owners. Public forestry agencies might furnish assistance in developing some type of a management organization which could provide a technical operating and marketing service fitted to the different types of owners. By these means many small ownerships could be handled as a single management unit and operating costs and services could be distributed among the owners in reasonable proportions.

The existing scrambled ownership pattern will continue to raise many dif-

ficult forest land problems. Continuity of tenure, and of course, policy is essential to the administration of a crop that takes several generations to grow. In the period following the war, forest policy matters will be extremely complex and difficult to solve because of the variety of forest landowners (both public and private). Separate policies may be needed to handle the special situation in each category if similar long-run objectives are to be achieved.

In view of the lack of interest of most private owners in long-term forestry such policies as special tax laws, long-term rehabilitation credits, and forest insurance probably will be of very limited application in the region. These policies may be necessary for those relatively few owners intending to remain in the forestry business, but they can hardly be expected to induce people who are unable or uninterested to undertake long-term management. The proposal for extensive leasing of forest lands by the public as a substitute for public ownership would only forestall the ultimate shift of this land into public ownership.

Attention should be given to these many situations during the war period by those concerned with forest policies in order that adequate preparations will be made for meeting them when they come to a head in the post-war period.

# City Replanning and Rebuilding

*By* GUY GREER *

PRIMARILY because of the misuse of land, our cities and towns are menacing the civic health of the nation. Like trees decaying at the core but spreading their branches wider and wider, they have fallen into a situation that is becoming intolerable, and their predicament is becoming progressively worse. Misuse of land, mainly by past generations, is indeed the underlying cause; but this cannot be dismissed as merely a case of the sins of the fathers. It is, rather, a matter of failure to foresee the consequences of eminently respectable attitudes and business practices projected into an era of rapid and profound changes in the technology of our society—attitudes and practices which we ourselves thus far have barely begun to alter. More specifically, the plight of the urban communities has resulted from the lack of planning and collective control of their physical development in the public interest. On the fuzzy-minded but comfortable assumption that, in the use of urban land as well as in almost everything else, economic action motivated by virtually unbridled self-interest would always promote the public interest, the cities and towns have been allowed to drift into their present sorry state.

There have been, to be sure, warnings. More than fifty years ago Ebenezer Howard began to cry out against what he saw happening. And from his day to ours, voices clear and strong have been lifted up, notably in the writings of the still young and vigorous Lewis Mumford. But for the most part we have closed our ears. To let go of our fuzzy-minded assumptions has seemed too painful for endurance.

Now, however, along with being forced to re-examine the foundations of the economic community from other points of view, we are obliged to face up to the consequences of the lack of planning and control of the use of the land in the towns and cities. And now it is not only the philosphers and poets who are aroused, but the most solid of solid men and institutions of business as well. Banks, life insurance companies, property owners, real estate dealers, not to mention social scientists and the public officials and others charged with responsibility for municipal finances, are becoming acutely aware of what has been going on. They see, among other things, that the people themselves—gropingly and usually with no more collective control than before—have been taking advantage of rapid transit in general and of the automobile in particular, to try to escape from the over-crowding and congestion of the interior of the towns. But the escape has been only partial at best, for the people have to come back into the towns to work; and meanwhile the congestion, if not the over-crowding, is made worse instead of better. The result is the dismally familiar story of the spread of blighted areas and slums.

Such areas have grown until in many communities they now cover from a quarter to half of the land within the city limits. And they are still growing. Most of them have been over-zoned for business uses, and consequently the valuations placed upon them, and maintained for purposes of tax assessment,

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are so high that any attempt by private enterprise to buy them and redevelop them in traditional fashion would be fatally handicapped by financial charges from the start. The cities themselves are helpless, both because of their precarious fiscal position and on account of their lack of adequate legal powers from the states in which they are located; and they seem destined to remain so, unless and until their problem is tackled on a vastly wider scale than anything ever applied to them heretofore. It is the major thesis of this article that their predicament must be dealt with—just as soon as the war emergency will permit—as a great national problem.

### *Approach to Replanning*

Let us suppose that hereafter the nation will be able to think and act as would a well-run family estate. This is a big assumption, to be sure; but we are obliged to start from some such premise, else we can hardly hope even to survive the war, much less to organize and maintain the peace afterwards. How, then, shall we set about dealing with the problem of the towns and cities?

In the first place, we shall have to undertake an immense job of economic and social research, preliminary to the job of replanning and rebuilding. Each urban community, large or small, must of course replan itself; but it must do so in the light of what is to be planned for —in relation to its immediate surroundings, to other communities, to its state or region, and to the country as a whole. Its future size and importance must be estimated, and manifestly the assumptions made in this regard will have to be reviewed and verified by one or more larger units of government—perhaps the federal government. Then for each community there must be gathered and analyzed the facts—not generalizations such as those in this article — about the blighted areas and slums, the land valuations, the housing conditions, the fiscal position of the town, the space requirements to relieve over-crowding and traffic congestion, the space requirements of all the various uses of the land, and so on and so forth.

When all this is done, the time will have come to begin the job of replanning. And while each community must make its own master plan as well as its plans for detailed redevelopment, each must—if we would avoid the errors of the past—abide by certain very clear, if only general principles. These, as expressed by numerous writers on the subject, I have attempted to formulate in the language of the social sciences as follows:

(1) The towns and cities must be planned and built, or replanned and rebuilt, for the health and happiness as well as the economic well-being of those who live and work in them. This is the first great commandment in city planning; and the second is like unto it.

(2) The physical layout and the administration of the government—including the location of and the optimum balance among dwellings, business and industry, public services and facilities — must be such as to provide for the maximum possible ease in carrying on the basic activity of the people — making a living.

(3) In the interior of the urban community there must be elbow room — plenty of it — both for the purpose of present living and working and for the necessary space to adapt the physical layout to the changes required or desired in the future.

(4) Internal transportation must be so organized as to permit fast and pleasant movement of things and people whenever such movement is required or desired; but the location of business and industry, as well as all other points of assembly or contact, must be so arranged with relation to the dwellings of the people that movement which is required, though not de-

sired, shall be kept at the lowest possible minimum — not forgetting that within reasonable limits and in wholesome surroundings, the pleasantest as well as the healthiest form of movement for people is walking.

(5) There must be in, or within easy access of, every urban community, not only all the public services needful for the physical and intellectual well-being of the inhabitants, but those required for their emotional well-being as well: as many of the cultural and spiritual facilities as the community can afford or the people can be induced to support — not only the utmost in educational opportunities for every citizen of every age, but art galleries, theatres, music, recreation centers, playgrounds, woods and streams for hunting and fishing, etc. etc.

(6) The towns and cities must, each in its fashion, be beautiful; but the beauty of each must be the expression of its own living, not a thing imposed from without.

What is to prevent us, after the war, from replanning and rebuilding our towns and cities in conformity with these principles? We shall have the most highly developed productive organization in our history. Once we have taken up the slack in producing goods for consumption, and have reconverted our plant and equipment to peace-time uses and made repairs and replacements, we shall almost certainly have available the man power and materials to undertake the rebuilding job. Indeed, if we may judge from the past, large portions of our resources would be wasted if we did not. Then why not?

There are certain obstacles in the way, although they are readily removable if we mean business. The most obvious one has to do with money and debt, or rather with our traditional notions about them. Some attention will be given to these later on. There are two others, however, which already have been mentioned and will be discussed here.

### *Legal Powers*

First is the lack of adequate legal powers by the local governments to control the use of the land in the urbanized areas. Manifestly such powers will have to be granted them by the states. Specifically, the government (or governments—since frequently there are more than one) of the entire metropolitan area should be given the power to:

(1) Define (in agreement with the governments affected) the area to be planned.

(2) Set up planning machinery and provide for the making of a master plan for the urbanized area, which in addition to the necessary maps and charts shall include a method of systematic procedure for its own future revision to meet the changing economic and social needs of the community.

(3) Vest the planning agency with all authority necessary to formulate and keep up to date the master plan.

(4) Define "public purpose" to include any purpose deemed by the appropriate agency of government within the urbanized area to be essential for realization of the master plan.

(5) Acquire, by condemnation when necessary, land anywhere within the urbanized area for a public purpose as above defined; to hold, use, lease, sell, or exchange such land, and in any case to make certain that it shall be used only in accordance with the master plan.

(6) Enact and enforce ordinances requiring the owners of real property within the urbanized area to use it or to permit its use only in accordance with the master plan.

In addition to the passage of laws such as these, the states should of course simplify and standardize the procedure of using eminent domain to acquire land. Manifestly, too, the courts should rule thereafter in accordance with the spirit and intent of the new laws rather than

the precedents set up under the conditions to be remedied. The indispensable requirement now is for what in America may seem a wide departure from traditional concepts of land ownership and control, although it would mean merely the adoption of concepts long established in the best governed countries and cities of Europe.

How can the towns and cities get this sort of legal status? The answer is not so simple as one might wish. A number of things will be necessary. In the first place the local communities themselves must become aroused to the nature and seriousness of the problem, then convinced that it is not hopeless of solution. The average citizen seems to know little or nothing about it; but if he *should* happen to try to visualize what would be involved in a solution of the problem, he is likely to take one look at the magnitude of the job and dismiss it from his thoughts as impossible of accomplishment. This state of public opinion will have to be changed. When it is, pressures will develop for the kind of legislation required.

But the state legislatures are usually dominated by rural rather than urban interests. To get them to act, therefore, both they and their rural constituents must be made to see that we cannot hope to have a prosperous agriculture until we have prosperous towns and cities. Clearly there is a sizeable job of education to be done in both the urban and the rural communities.

Even when the educational task is accomplished, however, the legislatures still may ask what reason there is to believe that the towns could finance their rebuilding anyhow. What would be the use, the lawmakers might demand, of passing legislation that would accomplish nothing? To give a satisfactory answer, the towns will have to come to grips with the toughest of their problems—the removal of the second of the obstacles mentioned above.

### *Dilemma of Over-Valued Land*

From the economic if not indeed from the social point of view, the most important of the principles of city planning outlined above is the third, the one having to do with elbow room in the interior of the urban community. To get plenty of it will involve a solution of the problem of land use and population density for all the principal sub-areas within the area to be planned. One fundamental requirement must take precedence over everything else: *overcrowding and congestion must be eliminated.* This means in the first place that ample space must be provided so that motor vehicles shall not be parked in the streets for any period whatever. It may mean also that space will have to be provided for small airplane landing fields; for if the number of airplanes in use should ever become remotely comparable to the number of automobiles, they will have to be landed in the middle of town rather than away out in the country. It means surely, in the second place, that in all residential neighborhoods there shall be plenty of open space for light and air. It means finally that most of the dwelling units must have plots of ground of their own. If people are to be expected to bring up children and thus enable the urban communities to maintain their population without dependence on immigration from rural areas, the families cannot be housed in tenements or apartments.

All this adds up to the inescapable necessity of a far less intensive use of interior land than has been customary heretofore. But in this case nothing like the present valuations placed on most of

such land can be maintained. A drastic reduction will be indispensable. Who then is going to absorb the loss? If it were a matter of a parcel here and there, bought and held in the expectation of cashing in on a redevelopment project, the answer would be simple: laws radical enough to deal summarily with the situation. But it must be remembered that much if not most of the land in question is held by individuals or institutions who have held it for a long time. In many other cases institutions hold mortgages on it—institutions which are the custodians of the savings of the people. They have acquired it or lent money on it in good faith, although usually without much understanding of the great forces and tendencies at work in the town. Already, however, where there is any real market, the prices have usually fallen a good deal from the levels of a decade or so ago, although they are still a great deal higher than could be justified for the new use in accordance with a sound master plan. This difference is what must somehow be got rid of.

Study of the broader aspects of the problem leads to the conclusion that the particular property owners involved here are no more responsible for what has happened than are the other inhabitants of the urban community. If they keep hanging on, as they feel they must, no doubt eventually the prices realizable for their property will sink low enough to make redevelopment a reasonably good risk. But if, as is here being argued, the community as a whole cannot afford to wait, the case becomes quite different. If then for the benefit of the entire community a re-allocation is made of the use of a very large proportion of the entire land area, and the owners of blighted and slum property find their going market values suddenly reduced thereby, they could make a very strong case in court to prove deprivation of value in the public interest. Thus they could present a convincing claim for compensation at current market prices. And in that event the compensation would have to be paid them by the urban community as a whole.

Let there be no mistake: no argument is here advanced for using public funds merely to pay for the mistakes of people who have made bad investments. A common superficial reaction is to compare what is being proposed with relieving an investor or a speculator in the stock market of his losses when prices fall. Only a little thought is necessary to show that the comparison is fallacious. The really comparable case would be that of buying the stock at current market prices, regardless of what might have been paid for it by the present holder, before taking some sort of action, for reasons having nothing to do with the stock market, which would destroy a large part of such value as was still indicated by the market.

This dilemma of excess valuations of interior land can be resolved only through the intervention of the community as a whole. And such intervention will involve large sums of money—money which under present and prospective circumstances the cities and towns cannot be expected to raise.

### *Federal Financial Aid*

Now it is probably true that if the entire tax structure of the Nation—federal, state, and local—were thoroughly overhauled, most of the cities could meet the situation. The great bulk of the federal taxes comes out of them, and if only they could somehow retain a larger share of it, their fiscal position might become excellent. Such far-reaching measures of tax reform are of course urgently needed. If they could be ac-

complished reasonably soon, the cities might be in a position to finance their own replanning and rebuilding. If this should happen, well and good; but a realistic appraisal of the prospects forces the conclusion that such a consummation is likely to be as long delayed as will be the fall of land valuations without public intervention. Consequently another approach to a solution of this particular financial problem is needed. When we look around for it, we are obliged to conclude that there is little or no hope of help from the state governments; for these are in a position scarcely more favorable than that of the cities and towns. There remains then only the federal government as the source of the funds required.

Once granted the proposition, that clearing away the obstacles to sound replanning and redevelopment is the responsibility of the whole community, federal financial aid is justifiable. For the situation has gone far beyond the proportions of a mere local problem: it is a matter affecting virtually all the urban communities and it involves more than half the population of the country. Consequently, as previously argued, the problem must be treated as one of national scope. Indeed federal policies share in the responsibility for the conditions which make replanning and redeveloping necessary.

If it is so treated, what might be a sound procedure? In a recent pamphlet of the National Planning Association (Washington, D. C.), the writer has collaborated with Professor Alvin H. Hansen in suggesting the following:

For every town or city—or for every group of contiguous municipalities—a long-range master plan would be completed in broad outline for the entire metropolitan area. And of course it would provide for its own subsequent revision to meet unforeseeable needs. It would be formally submitted to the appropriate federal agency in connection with an application for financial aid in the acquisition of all the real property within a clearly defined slum or blighted area. For each such area and the immediate surroundings, the planning would have to be not only complete and in accordance with the master plan, but it should also be accompanied by the data necessary to justify all assumptions as to future changes. Definitely indicated would be the proposed use of every square foot of the area, whether for public purposes or for leasing to private enterprise; and such use would be determined without regard to acquisition cost of the land. In other words, the acquisition would be a by-product of the job of clearing away the obstacles to redevelopment: in arriving at a decision as to its subsequent use, the land should be deemed to have cost nothing.

Decision as to acquisition, as well as to future kind of use, should be by the planning agency for the whole urban area; not by the local housing authority, because the considerations involved would be broader than housing alone.

Upon approval by the appropriate agencies in Washington of all aspects of a proposal to acquire property, the government would be prepared to advance funds, if need be, up to the entire cost of acquisition. Possibly repayment of the principal might be required, along with a share of the subsequent net proceeds from the property in lieu of interest. In view of the fiscal position of most municipalities, however, there are strong reasons for requiring them only to pay over, for fifty years or so, something like two-thirds of such sums as may be obtained from leasing the property, thus giving them a long breathing

spell in which to undertake an overhauling of their tax structures. Of course, if they could accomplish tax reform at once, they might be able to finance the whole program out of their own resources and thus escape even the minimum of federal supervision that would otherwise be unavoidable. And let it be added here, parenthetically, that no centralized control over city planning is envisaged. Every possible safeguard should be included in the federal legislation (and in the accompanying discussion of the intent of the laws) against interference with the local community in planning any sort of town it wants, so long as a few indispensable and obvious standards are adhered to.

Demolition and rebuilding in the acquired areas, or rehabilitation where this is feasible, would proceed as rapidly as all the attendant circumstances would permit. Meanwhile, public work activities of all kinds would be fitted into the larger program. Steady progress would be made, over the years, towards realization of the growing and developing master plan.

### *The Housing Problem*

It will be observed that thus far housing has had no conspicuous place in the present discussion. This was deliberate, for the reason that the housing problem, if attacked as such, seems to be insoluble. Essentially it is a problem of costs in relation to the incomes of the families to be housed. And a very large, if not the largest element in such costs—if plenty of open space is to be provided—is land. Another very important element, of course, is the backwardness of the residential construction industry itself.

Apart from the matter of building costs, the chief requirement is for plenty of *houses,* not apartments, for rent. Home ownership, as far as financial arrangements are concerned, is now very well taken care of, through the Federal Housing Administration and the savings and loan associations operating under the Federal Home Loan Bank Board. But the owning and renting of single family houses has been looked upon heretofore by real estate operators as an extremely unsatisfactory business. The reason is that such properties were never built for rent in the first place, but for home ownership. Their rental status is usually the result of mortgage foreclosures. Moreover, they are scattered here and there all over the place, so that it is difficult or impossible to operate them in a business-like way. But the conditions prevailing hitherto can be changed. Experience of a few rental projects with mortgages insured by the Federal Housing Administration, indicates unmistakably that when properly planned and grouped, the renting of single family houses may become a highly satisfactory and moderately profitable enterprise.

The problem of urban housing therefore needs to be attacked from two principal sides. In the first place, in addition to the method outlined above for wiping out excess land valuations, an extensive program of research and experimentation should be undertaken, to modernize the construction industry. In fact something is already being accomplished along these lines now by the consolidated National Housing Agency in connection with the production of war housing. The other measure needed is a method of doing for rental housing what FHA has been successfully accomplishing for home ownership. Clearly, as demonstrated by the meager results obtained under Section 207 of the National Housing Act, mortgage insurance for rental projects is not the answer. In fact, those

students of the problem most familiar with the FHA experience have reached the conclusion that only through insurance of the entire investment in rental properties can results be accomplished on a scale comparable to those in the field of home ownership. Consequently a procedure has been fully worked out, in a form ready for introduction as an amendment to the National Housing Act, to accomplish the desired results—and to do so, moreover, with probably less risk to the government than is now involved in the insurance of mortgages on rental housing. The insurance would guarantee only a very low yield on the investment; would be granted only to owners who could qualify as thoroughly reliable and competent; would apply only to projects designed for rent to families of moderate to low income. There would be some form of guarantee of recovery of investment, but the minimum return insured would be so low that the owners would be under strong compulsion to operate the property in such a way as to make it earn substantially more.

The measures mentioned above would not be sufficient at once to solve all the problems of housing the families in the lowest third of the income groups. Consequently there will be a place and an urgent need, for a good many years at least, for a substantial program of publicly provided or subsidized housing. While the experience to date of the United States Housing Authority probably does not indicate a solution of the problem, that approach should be carefully and sympathetically re-examined. The author's personal opinion—admittedly somewhat vague—is that the ultimate solution will lie in reducing the cost of adequate housing, on the one hand, and in raising the incomes of the families now in the lower brackets, on the other. In the meanwhile some form of subsidy would appear to be indispensable—either of the families to permit them to pay commercial rents, or of the production and operation of the housing itself.

### *Fiscal Problem*

Supposing that all the foregoing suggestions are deemed acceptable in principle, will the fiscal capacity of the federal government be adequate for the demands for funds likely to be made upon it? There are the best of reasons for believing that the answer will be yes. In the first place, the amounts to be advanced to the urban communities are likely to be much less than at first glance the magnitude of the undertaking would indicate. It is to be expected that by far the greater part of the rebuilding will be carried out by private enterprise. The public investment, whatever its amount, will be made primarily for the purpose of removing the obstacles in the way of private development. Moreover, the governments of the local communities will undoubtedly be able to make some repayments, perhaps in a good many cases the entire amount advanced. At all events this will be a type of public investment characterized by a great multiplying power.

In the second place the actual rebuilding program will be started and carried on for the most part when the demand for private investment funds is low—in other words, when a depression threatens. Reverting to the analogy of a well-run family estate, the job of rebuilding will be prosecuted in the spare time of the economy. This and other forms of useful public investment should be made, to whatever extent proves necessary, in order to take up any slack in employment that threatens to occur. If

this be done, we may look forward to a permanent condition of substantially full employment, and consequently to a high national income.

It is true that by the end of the war we shall have a large internal debt of the government, perhaps approaching a figure double that of the national income. But there is excellent reason to believe, principally on the basis of the experience of Great Britain over the past hundred and fifty years, that a nation with a full employment income can easily manage a debt substantially more than double that income. Consequently, if and when it becomes necessary to increase the debt for the purpose of making advances to the local communities, there need be nothing terrifying about the proposal. For we may be sure in the first place that the debt need never be fully repaid (but only refunded over and over again as has been done in England ever since the Napoleonic wars) and in the second place that in all probability periods of private investment boom will come, during which times the debt not only can but must be reduced in order to avoid price inflation.

These are ideas about government debt which may be not be entirely familiar to those who do not understand the nature of public credit operations. They are, however, essentially matters of simple common sense. Space here is inadequate for further discussion of them, but the reader is referred to an article entitled "The Federal Debt and the Future" by Alvin H. Hansen and the author, April, 1942 issue of *Harper's Magazine.*

We shall have after the war the greatest productive organization in our history. Our equipment and skilled manpower will be all set and ready to go; for the period of shifting from wartime to peacetime occupations need not be long and difficult, if we use a little foresight now. And be it remembered that as a nation we shall be debt free, because we shall not have borrowed abroad. On the contrary, we shall have lent enormous sums. Also, *as a nation,* we shall pay for our war effort as we go. This is inevitably so, for the obvious reason that we can use up during the war only what we already have plus what we can produce. The complicated task which we shall have later, with internal debt and taxation, can mean only that we are redistributing the cost of a job already paid for.

The fiscal task, to be sure, will be a large one, no matter what we do about the cities; but we are rapidly learning how to handle such things, and to do so without damage to the essentials of our way of life. We are learning at last how to make our financial mechanisms, not the masters but the servants of our society—how to make them fit the facts of our power to produce what we want when we want it. And surely the restoration to civic health of our towns and cities, a job we can surely do over the years to come, is one of the things we know we shall want.

# A Quantitative Test of the Significance of Land-Use Areas

*By* DAVID L. MacFARLANE *

ADVANCES in method in land economics await not only a more complete adaptation of known qualitative procedures, but the development of appropriate quantitative tools. This paper directs attention to a statistical procedure which the writer asserts provides a method suitable for testing the significance of land classification.[1]

The need for rigorous tests of the superiority of one classification over others is demonstrated by the fact that land economists recommend subjective methods in land mapping. For instance, two researchers state that ". . . local land classifications are perhaps better based on experienced opinion influenced subjectively by the most important objective variables, but not incorporating specific 'scientific' or 'objective' methods in combining the numerous variables."[2] Surely these writers would agree to going one step farther and apply sound statistical tests to alternative, subjectively-determined classifications.

That subjective classifications of the character used in county planning work (and thus in the maps shown in this paper) can fail to provide a basis for economic programs is illustrated by a study in Lincoln Parish, Louisiana. There, according to a farm management study, cotton yield in an area recommended for retirement from crop use by the county planning committee was higher than in any other area of the parish; the study also showed farm income in the same area to be substantially above that in an area which the county planning committee described as requiring only minor adjustments.[3] Whether the farm management results in this particular case are more or less significant than those of the county planning committee this writer is not prepared to state. Manifestly, however, quantitative checks on county planning classifications are needed. Further, the method proposed by the writer is one which permits a thorough-going check, and one which does not require securing farm records.

The land economist frequently wishes to divide a county (or other area) into homogeneous parts for the purpose of examining land-use problems or setting up action programs. He ordinarily undertakes this task on the basis of physical features and economic and sociological data. These procedures are generally qualitative in character, and even when quantitative methods are used, checks on the significance of the work are not readily available. The method developed by the writer permits selecting the "best" of two or more land-use maps. The criterion of "best" is that of homogeneity with regard to significant quantitative measures.

### *The Statistical Method Proposed*

If stratification of a universe can be effected on a basis which is significant with respect to the variable being examined, an economy in sampling can be

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[1] The paper benefited greatly from the criticism and suggestions of Professor R. H. Allen. The clerical work and statistical computations in this study were carried out by workers of the Works Progress Administration under Kentucky Project 34-4-6067.

[2] C. A. Boonstra and J. R. Campbell, "Land Classification, Land-Use Areas and Farm Management Research," *Journal of Farm Economics*, 1941, August, p. 657.

[3] *Ibid.*, pp. 659-60.

accomplished. This is measured by the extent of the reduction in the standard error of the mean from that secured under Bernoullian or random sampling conditions. The writer has employed the stratified sampling procedure in an application which, as far as he was able to determine, is new. It is that of testing the significance of stratification or the division of a universe into homogeneous parts (where homogeneity is the desired criterion).

The theory pertinent to stratified sampling is stated by Yule and Kendall [4] in the following terms:

"If we are drawing from the same record throughout, but always draw the first card from one part of that record, the second card from another part, and so on, and these parts differ more or less, the standard error of the mean will be decreased. For if, in large samples drawn from the subsidiary parts of the record from which the several cards are taken, the standard deviations are $\sigma_1$, $\sigma_2$ . . . $\sigma_n$, and the means differ by $d_1$, $d_2$, . . . $d_n$ from the mean for a large sample from the entire record, we have:

$$\sigma_m^2 = \frac{\sigma_o^2}{n} - \frac{S_m^2}{n}."$$

[4] *An Introduction to the Theory of Statistics*, 1940, p. 389.

The method advanced will be illustrated by use of an actual study of Grant County, Kentucky. Figures I and II present maps of this county. The first shows one set of land-use areas; the second an alternative set, each developed in connection with land-use planning studies in that county. The location of each of the 1560 farmsteads in the county is indicated by a number on the maps. The test of superiority of one or the other land-use delineation rests, in this test, on homogeneity within the areas in terms of (1) size of farm, (2) important crop acreages per farm, (3) yield data, and (4) numbers of important kinds of livestock per farm.

The variables used and the reductions in the standard errors of the means are shown in Table 1. The standard errors of the means of ten per cent random samples are shown. Then the corresponding measures for stratified samples (with stratification according to the delineations indicated in Figures I and II) are presented. It should be recalled that the stratified sampling procedure involves drawing the sample proportionately from the strata (or areas shown).

TABLE I. REDUCTION IN STANDARD ERROR OF MEANS ATTRIBUTABLE TO STRATIFICATION ACCORDING TO TWO LAND-USE MAPS, GRANT COUNTY, KENTUCKY (EIGHT VARIABLES)

| Variable | Bernoullian $\sigma_m$ | Map I | | Map II | |
|---|---|---|---|---|---|
| | | $\sigma_{m_{st}}$ | Per Cent Reduction from $\sigma_m$ | $\sigma_{m_{st}}$ | Per Cent Reduction from $\sigma_m$ |
| Acres per farm, 1939 | 6.3404 | 6.0823 | 4.07 | 5.8846 | 7.19 |
| Tobacco, acres per farm, 1937 | 0.2411 | 0.2281 | 5.39 | 0.2193 | 9.04 |
| Tobacco, yield per acre, 1937 | 8.5610 | 7.9000 | 9.72 | 7.2522 | 15.29 |
| Corn, acres per farm, 1937 | 0.4072 | 0.4022 | 1.23 | 0.3865 | 5.08 |
| Alfalfa, acres per farm, 1937 | 0.6251 | 0.5981 | 4.32 | 0.5512 | 11.82 |
| Dairy cows per farm, 1939 | 0.2611 | 0.2604 | 0.27 | 0.2522 | 3.41 |
| Ewes and mature sheep per farm, 1939 | 1.8513 | 1.8174 | 1.83 | 1.7109 | 7.58 |
| Sows per farm, 1939 | 0.1008 | 1.000 | 0.79 | 0.0979 | 2.88 |

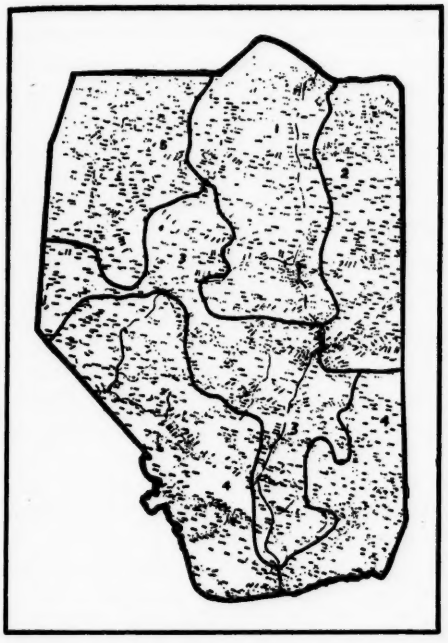

FIGURE 1 (MAP I). A LAND-USE PLANNING DELINEATION OF GRANT COUNTY, KENTUCKY

The differences between the standard errors secured from the stratified samples and those of the corresponding Bernoullian or random samples are shown in percentage terms. The standard error of a random sample was calculated by use of the formula $\sigma^2_{m_{ts}} = \frac{\sigma_o^2}{n}\left(1 - \frac{n}{N}\right)$; that for a stratified sample by the formula $\sigma^2_{m_{st}} = \frac{\sigma_o^2}{n}\left(1 - \frac{n}{N}\right) - \frac{S_m^2}{n}$, where $S_m$ equals the standard deviation of the averages of the several strata about the average of the whole sample. In computing this value the deviation of the mean of each stratum is weighted by the number of cases in that stratum. The term $n$ in these formulae represents the number of items in the sample, and $N$ the number of items in the universe. Thus $(1 - \frac{n}{N})$ is the correction in the standard error to allow for drawing the sample from a finite rather than infinite universe. It is clear that the more significant the stratification the greater will be $S_m^2$ and the greater the reduction in standard error of the mean (from the Bernoullian standard error) attributable to stratification. In other words, the weighted deviations of the strata means will be larger for the more significant stratification. This method really rests on the size of $S_m^2$ appropriate to each map. However, the writer has carried his computations further as a means of facilitating comparisons between different land-use delineations. This ac-

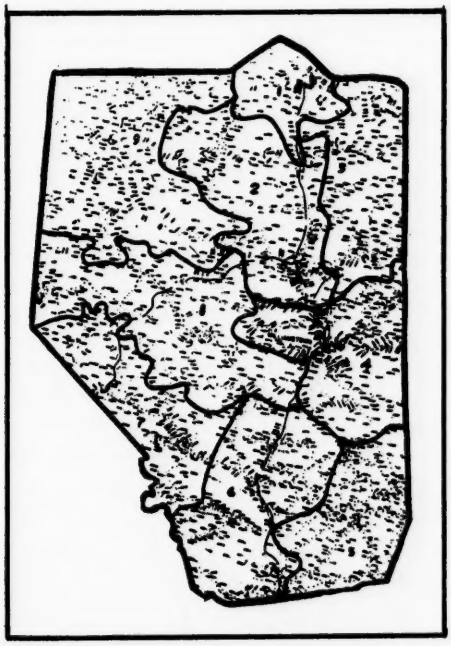

FIGURE 2 (MAP II). AN ALTERNATIVE LAND-USE PLANNING DELINEATION OF GRANT COUNTY, KENTUCKY

counts for his showing the percentage reductions as actually presented in Table I.

### *General Conclusions on Overall Classification*

Most notable in Table I is the fact that the stratification shown in Map II resulted in greater reduction in the standard error than that of Map I for every one of the eight variables. From this we conclude that, on the basis of the criterion used, Map II represents a superior mapping of the county. Another interesting finding is that both the maps provide more homogeneous areas for the land-use variables than for the livestock. This gives useful information on the agriculture of the county. Third, it should be noted that the stratifications are most significant with respect to the yield variable used and least significant with respect to sow and cow numbers per farm. These latter, in other words, are so homogeneously scattered over the whole county that really significant areas for these variables cannot be established.

It should be made perfectly clear that the superiority of Map II with respect to the criterion used does not rest in the fact that it has nearly twice as many areas as Map I. This is manifest from the nature of $S_{\bar{m}}^2$ . The greater reduction in the standard errors of the means (from the corresponding Bernoullian measures) due to stratification must be attributable to greater homogeneity within the areas (apart from extremely rare random fluctuations). This point can be made more clearly by supposing that in determining the nine areas of Map II a rectangular grid were used. The means of samples, though drawn proportionately from such gridded areas, would have standard errors of the same order as those of random samples of equal size from the whole county. This would be true also of samples drawn proportionately from any number of areas secured by gridding the county. In the mapping presented in this study, then, the superiority of Map II cannot arise from the larger number of areas.

In addition to justifying the foregoing conclusions respecting which area delineation is superior, the data of Table I are interesting because they shed light on the controversial subject of what constitutes the best criterion for classifying land for a particular use. It has been suggested many times that a delineation suitable for one purpose would not be suitable for another. The results of the present work show that on the basis of each of eight variables used one delineation is superior to the other. One is justified then in concluding that for quantitative agricultural measures, other than those used, the results might be expected to be in agreement with those presented. For instance, if the test were made on the basis of homogeneity with regard to land values or other economic variables, results consistent with those secured might be regarded as likely. The writer hastens, however, to point out that his work suggests that for some purposes no really significant set of areas could be found. That the random statistical results for cow numbers are about as satisfactory in either stratification leads to such a finding.

It is not necessary in this paper to show how the delineations represented in the maps presented were derived. Rather for present purposes it is more satisfactory to represent the use of the method in its most general terms. If two or more maps of an area have been prepared by any method or methods, and a quantitative check of these on the basis of homogeneity with respect to agricultural variables is desired, then the method is applicable. The work re-

quired in making this test is neither great nor complicated. This is particularly true because of the general availability and use of individual farm data (from the Agricultural Adjustment Administration) in land-use planning studies. The method has the further advantage that no particular analytical skill is required in handling the statistical results. In this respect the method is very uncommon, any statistical method having this property being extremely rare.

### *Consideration of Individual Areas*

A method for determining the most satisfactory of two or more land classifications for a given area on the basis of a generally useful criterion has been explained and illustrated. The data used in that task can serve to examine the merits of the classification by individual areas. For instance in Map I, on the basis of homogeneity, which are the best areas? This can be answered by showing the coefficients of variation for each stratum in the samples already used. The numbers of farms selected from each land-use area in developing the samples of 156 farms for each map are shown in Table II.

The coefficients of variation of the eight variables for each of the areas in the two maps are presented in Table III.

TABLE II. NUMBER OF FARMS SELECTED FROM EACH LAND-USE AREA IN DEVELOPING SAMPLES USED

| Land Use Area | Number of Farms from each Area | |
|---|---|---|
| | Map I | Map II |
| 1 | 32 | 25 |
| 2 | 25 | 11 |
| 3 | 38 | 18 |
| 4 | 37 | 18 |
| 5 | 24 | 15 |
| 6 | | 14 |
| 7 | | 17 |
| 8 | | 20 |
| 9 | | 18 |

It is worth pointing out that the variation between areas in the coefficients presented in Table III is not due to the differing numbers of items drawn from each area. In other words, after an early stage, using larger samples will not reduce the coefficient of variation.

The data of Table III show clearly that, even though the delineation of Map II is, by the criterion used, more satisfactory than that of Map I, the homogeneity within the areas in each delineation varies widely. For instance, in the first delineation the coefficient of variation of the variable, acres in farm 1939, ranges from 61.0 per cent in Area 2 to 104.7 per cent in Area 4. Clearly, on the basis of homogeneity, Area 2 is much more satisfactory than Area 4. Another type of analysis is possible: that is to compare the mapping of large portions of the county. Areas 3 and 4 in

TABLE III. COEFFICIENTS OF VARIATION OF EIGHT VARIABLES BY AREAS ACCORDING TO TWO LAND-USE MAPS, GRANT COUNTY, KENTUCKY

| Variable | Areas Defined by Land Use Map 1 | | | | | Areas Defined by Land Use Map 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Acres per farm, 1939 | 63.2 | 61.0 | 69.1 | 104.7 | 101.8 | 80.1 | 75.8 | 50.0 | 93.4 | 76.7 | 59.8 | 99.8 | 79.5 | 61.8 |
| Tobacco, acres per farm, 1937 | 69.3 | 73.8 | 83.3 | 102.3 | 180.0 | 73.9 | 68.5 | 52.0 | 59.2 | 97.8 | 96.6 | 109.4 | 115.3 | 87.8 |
| Tobacco, yield per acre, 1937 | 10.7 | 8.9 | 10.3 | 9.6 | 12.2 | 7.1 | 9.5 | 11.3 | 11.9 | 9.1 | 8.8 | 12.2 | 16.1 | 6.3 |
| Corn, acres per farm, 1937 | 65.3 | 54.0 | 68.3 | 83.9 | 192.2 | 74.5 | 60.7 | 70.7 | 36.9 | 60.5 | 71.8 | 122.4 | 83.5 | 78.5 |
| Alfalfa, acres per farm, 1937 | 141.8 | 107.5 | 125.5 | 87.4 | 137.3 | 120.0 | 150.5 | 128.7 | 185.1 | 87.0 | 117.2 | 110.3 | 111.3 | 78.4 |
| Dairy cows per farm, 1939 | 107.0 | 79.6 | 78.2 | 59.6 | 85.2 | 127.6 | 125.0 | 50.3 | 101.2 | 62.9 | 62.7 | 182.3 | 75.3 | 95.3 |
| Ewes and mature sheep per farm, 1939 | 112.6 | 105.4 | 77.4 | 104.9 | 105.8 | 98.5 | 146.3 | 90.8 | 155.5 | 72.3 | 110.6 | 104.6 | 85.7 | 84.6 |
| Sows per farm, 1939 | 137.9 | 112.1 | 120.6 | 105.9 | 96.4 | 106.0 | 119.9 | 119.9 | 131.5 | 81.7 | 188.5 | 120.2 | 159.6 | 132.2 |

TABLE IV. RANKING OF LAND-USE AREAS ON THE BASIS OF HOMOGENEITY WITH REGARD TO EIGHT VARIABLES, GRANT COUNTY, KENTUCKY

| Variable | Ranking of Areas, Map 1 | | | | | Ranking of Areas, Map 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | First | Second | Third | Fourth | Fifth | First | Second | Third | Fourth | Fifth | Sixth | Sev'th | Eighth | Ninth |
| Acres per farm, 1939 | 2 | 1 | 3 | 5 | 4 | 3 | 6 | 9 | 2 | 5 | 8 | 1 | 4 | 7 |
| Tobacco, acres per farm, 1937 | 1 | 2 | 3 | 4 | 5 | 3 | 4 | 2 | 1 | 9 | 6 | 5 | 7 | 8 |
| Tobacco, yield per acre, 1937 | 2 | 4 | 3 | 1 | 5 | 9 | 1 | 6 | 5 | 2 | 3 | 4 | 7 | 8 |
| Corn, acres per farm, 1937 | 2 | 1 | 3 | 4 | 5 | 4 | 5 | 2 | 3 | 6 | 1 | 9 | 8 | 7 |
| Alfalfa, acres per farm, 1937 | 4 | 2 | 3 | 5 | 1 | 9 | 5 | 7 | 8 | 6 | 1 | 3 | 2 | 4 |
| Dairy cows per farm, 1939 | 4 | 3 | 2 | 5 | 1 | 3 | 6 | 5 | 8 | 9 | 4 | 2 | 1 | 7 |
| Ewes and mature sheep per farm, 1939 | 3 | 4 | 2 | 5 | 1 | 5 | 9 | 8 | 3 | 1 | 7 | 6 | 2 | 4 |
| Sows per farm, 1939 | 5 | 4 | 2 | 3 | 1 | 5 | 1 | 2 | 3 | 7 | 4 | 9 | 8 | 6 |

Map I include about the same portion of the county as areas 5, 6, 7, and 8 in Map II. The gains and losses involved in accepting Map II rather than Map I for this portion of the county can be checked by observing the coefficients of variation for the areas just enumerated for the two maps.

To facilitate comparisons of this character and to show clearly that no area is best or worst, by our criterion, for more than one-third of the variables considered, the areas are ranked by increasing order of their coefficient of variation. The result of this classification is presented in Table IV. This indicates that in Map I, Areas 2 and 3 have the greatest general homogeneity for all eight variables; Areas 1 and 5 are poorest in this respect. In Map II, Areas 3 and 5 have the greatest general homogeneity for the eight variables; Areas 7 and 8 are at the other extreme. The type of data represented in Tables III and IV is very useful in providing a quantitative check on the characteristics of land-use classifications. If one wished to make improvements in these maps he would commence on Areas 2 and 5 in the case of Map I and Areas 7 and 8 in the case of Map II. Improvements consistent with the criterion of homogeneity could be suggested by observation of the data for those individual farms shown by the maps to be near the boundaries of the areas under special consideration.

### *General Conclusions*

This paper sets forth a quantitative method for determining on the basis of explicitly stated assumptions which of two or more land-use classifications is most satisfactory. The latter portion treats with the use of statistical measures in examining in some detail the areas of a single map or alternative mappings of a single segment of a larger area. Such analyses are very helpful to the researcher in guiding him to a realization of some implications of a land classification which escape one if the work proceeds on a more qualitative basis. The methods advanced have the advantages that the statistical work is not burdensome, and that the dangers which accompany the use of refined statistical tools are nearly absent.

This work also illustrates the application of statistical tools in a new usage. It appears to testify to the accuracy and significance of Warren Persons' credo: "that statistical methods are frequently dependent upon the peculiar data to which they are applied; (and) that such methods are sound when they can be retained in practice, even though the methods are not applicable to data of another sort."

# Land and Power Administration of the Central Valley Project

*By* MERRILL R. GOODALL *

CONSTRUCTION of the great dams and canals of the Central Valley Project of California is under way. Arrangements for administration of the project, however, are not the equal of the engineering plan. But upon the clarification of the administrative aspects of the project depends the unified operation and multiple utility of its related structures. This article provides an introduction to the administrative problem and the social and economic questions underlying it.

Seventy-five years of state water planning in California were brought to a climax when the legislature adopted the Central Valley Project in the closing hours of the 1933 session.[1] The act was held up for a referendum vote of the people and "Battle lines for a fight to the finish on the state water program" [2] were formed throughout California. Popular vote favored the project 459,712 to 426,109.[3] The vote was not quite 1.1 to 1 in the entire state; in the major subdivisions of the Central Valley it was 5 to 1 in the San Joaquin Valley and 3.3 to 1 in the Sacramento Valley.[4]

The act established the Water Project Authority for construction and administrative purposes. Actual construction was to begin whenever the Authority should determine the financial feasibility of the project. The sum of $170,000,000 in revenue bonds which the Authority was given power to issue was to be reduced by any amounts contributed by the state of California. Federal assistance was obviously contemplated.[5]

The state water plan was urged in Washington and approved by Congress on August 26, 1937.[6] Thus, the sequence of events since 1933 has brought an unforeseen change to the Water Project Authority's functions. Its activities have

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* Examining Division, U. S. Civil Service Commission, Washington, D. C. The author is indebted to Dr. Harlan H. Barrows, Chairman of the Department of Geography, University of Chicago and Dr. Samuel C. May, Director of the Bureau of Public Administration, University of California. Full responsibility for all opinions rests, of course, with the author.

[1] *Cal. Stats.* (1933), 2643-2664.

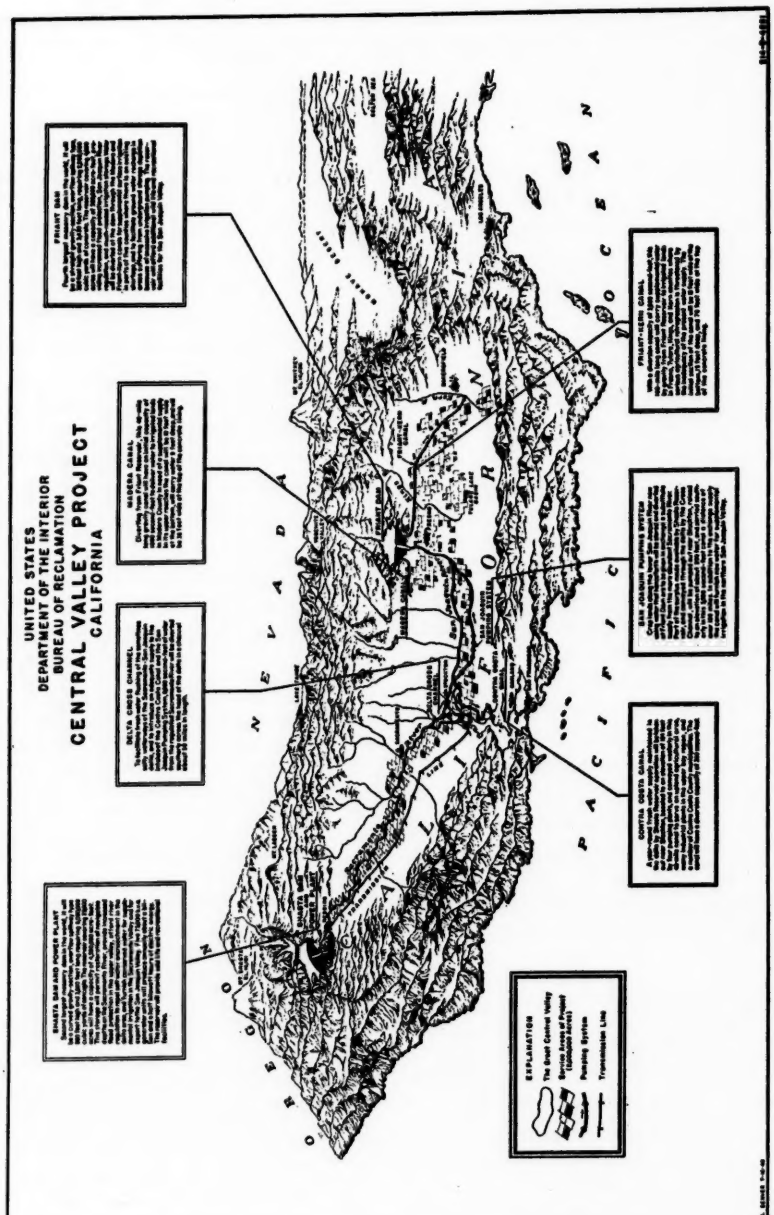
[2] Headline in the Sacramento *Bee*, October 5, 1933.

[3] The special referendum election was held December 19, 1933.

[4] Accurate description of private utility participation in this campaign is not available. For background see *Journal of the Senate*, Fifty-third Session (1937), pp. 663-666 and *ibid*, Forty-fifth Session (1923), p. 1782; for a reporting by the Pacific Gas and Electric Company of direct expenditures in opposition to the Central Valley Project since 1935, cf., the Company's annual reports to the State Railroad Commission.

[5] In fact, just a month after the Central Valley Project Act was signed by the governor in August, 1933, a preliminary application for a Federal grant and loan was filed by the governor, since the Water Project Authority could not act until the referendum test was passed. Cf., California, Water Project Authority, *Amended Application to Federal Emergency Administration of Public Works for Approval of Central Valley Project of California* (Sacramento, January 25, 1934), 160 pp. and Appendix, Processed; *Supplement to Amended Application* (Sacramento, February 16, 1934), 205 pp. Processed.

[6] 50 *U. S. Stat. at L.* (1937), 844-50. Earlier, however, Federal public work funds had been allocated to the project and on December 2, 1935, President Roosevelt approved a feasibility report of the Secretary of the Interior, transmitted to the President, November 26, 1935.


UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
CENTRAL VALLEY PROJECT
CALIFORNIA
FRIANT DAM
MADERA CANAL
DELTA CROSS CHANNEL
SHASTA DAM AND POWER PLANT
FRIANT-KERN CANAL
SAN JOAQUIN PUMPING SYSTEM
CONTRA COSTA CANAL
NEVADA
PACIFIC OCEAN
OREGON
CALIFORNIA
EXPLANATION
The Great Central Valley
Service Areas of Project
(Ultimate Extent)
Pumping System
Transmission Line

been concerned chiefly with assisting the Bureau of Reclamation by means of surveys, studies, and reports,[7] and not, as originally contemplated, with actual construction and administration of the project.

Many, however, still suggest that the project works, now under construction by the Bureau of Reclamation at an estimated cost of $265,000,000, be administered by the Authority.[8] Present and prospective usefulness of the Authority must be evaluated. It is necessary, therefore, to ask: What are the major benefits which the physical structures of the project are designed to promote and secure? What existing administrative agencies might direct or bring about the readjustments found to be needed? What new type of administrative organization might logically be established? What administrative organization, in the light of all relevant factors, will promote the public welfare in the highest degree?

### *Major Purposes of Physical Structures*

The Central Valley Project is designed to conserve and regulate the waters of the Sacramento and San Joaquin Rivers for supplemental irrigation, salinity control, provision of domestic and industrial water supplies, power generation, flood control, and improvement of the navigability of the Sacramento.[9]

*Irrigation.* Irrigation of approximately two million acres is a dominant use of water in the Central Valley. Unfortunately, most of the land suitable for irrigation is in one part of the valley and most of the water available for irrigation is in another part. The San Joaquin Valley contains two-thirds of the tillable land, but has only one-third of the water, whereas the Sacramento Valley has only one-third of the land but two-thirds of the water. Additional water is urgently needed for about 1,250,000 acres of developed land in the San Joaquin Valley. More than 50,000 acres of these lands have been abandoned in recent years because of failure of the supply of water upon which they depended. A major objective of the project is to correct these disadvantageous conditions (1) by making surplus water at the north available for use in the south, (2) by making surplus water in streams that descend the eastern side of the valley from the high windward slopes of the Sierra Nevada available on the drier western side, where fewer streams of lesser volume descend from the leeward slopes of the Coast Range, and (3) by storing surplus water in winter, the rainy season, for release in summer, the season of drought and of crop production.

Shasta Dam and Reservoir, on the upper Sacramento, is the "key unit" of the project because practically all of the Sacramento River water to be used for the purposes indicated above will be stored and regulated there. The dam and reservoir are expected to eliminate deficiencies in the Sacramento Valley and to provide surplus water for exportation from the delta region into the San Joaquin Valley.

Friant Dam and Reservoir, on the San Joaquin River twenty miles north of Fresno, will store water for diversion southward through the Friant-Kern Ca-

[7] Actually, these studies are prepared by the staff of the Division of Water Resources, Department of Public Works of the State of California.

[8] An editorial writer in The Oakland *Tribune* (August 17, 1941), for example, refers to proposed operation of the project works by the United States Bureau of Reclamation as "The Ickes theory of Federal Management."

[9] See as general reference the famous bulletin of the California Division of Water Resources, *Report to Legislature of 1931 on State Water Plan*, Bulletin No. 25 (Sacramento: State Printing Office, 1931), 204 pp., and its supplements.

nal and northward through the Madera Canal into parts of five counties where nearly all the surface water is appropriated and where the available underground supply has approached exhaustion. The Friant-Kern Canal will extend from the dam to Kern River, a distance of 157 miles, and will provide supplemental irrigation water for 1,000,000 acres of developed land. The Madera Canal will extend from the dam to the Chowchilla River and will furnish a total or supplemental supply to 175,000 acres.

The chief function of the project, insofar as it relates to irrigation, is remedial; a highly developed agriculture, which has experienced serious loss and retrogression because of water shortage and inadequate facilities for water distribution, is to be rehabilitated and protected.

*Salinity Control; Domestic and Industrial Supply.* The water in existing channels of the delta is relatively nonsaline in winter, when the rivers are high and little or no water is diverted for consumptive use, but sometimes water in about one-half of the delta channels is unfit for agricultural, domestic, or industrial use in summer, when the rivers are low and the diversions are heavy.[10] The salinity of the water compels the rich delta farms, totaling more than a quarter of a million acres of irrigated land, to operate under severe handicaps. Sufficient water will be delivered into the delta to force back the salt water which comes from Suisun Bay. The forty-six mile Contra Costa Canal will convey fresh water from the upper delta for domestic and industrial use in a highly developed upper-bay district now menaced by salt water intrusion. The Contra Costa Canal will also supply water for agricultural use.

*Hydroelectric Power.* The power to be generated at Shasta Dam will total 1,500,000,000 kilowatt hours annually, an amount equivalent to from 20 to 33 per cent of the northern California power market in terms of present power demands. Hydroelectric power, a by-product of water storage for irrigation and other purposes, will operate the San Joaquin Pumping System, stimulate the many uses of electricity, and help finance the project.

*Flood Control.* Part of the capacity of the reservoir above Shasta Dam will be used for flood control, and regulation of the flow of the river will lessen the strain on the levee system.[11]

*Navigation.* Shasta Reservoir will be operated to maintain a minimum flow at Knights Landing of 5,000 second-feet. This flow will permit navigation above Sacramento in a channel at least six feet deep at Colusa, five feet deep to Chico Landing, and four feet deep to Red Bluff, 150 miles above the mouth of the Sacramento river.

### *Needed Economic and Social Adjustments*

The prompt distribution of hydroelectric power and the determination of an appropriate land-use pattern are required if public benefits from the project works are to be maximized and safeguarded properly.

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[10] Cf., for a complete analysis, California, Division of Water Resources, *Variation and Control of Salinity*, Bulletin No. 27 (Sacramento State Printing Office, 1931), 440 pp.

[11] Analysis made of flow of the Sacramento River at Kennett and Red Bluff during the great February-March 1940 flood shows, for example, that had Shasta Dam been in operation it would have checked flood on upper reaches of the Sacramento by reducing the peak flow at Red Bluff from 291,000 second-feet to 125,000 second-feet. *California Highways and Public Works* 18 (April, 1940), p. 2.

*The Distribution of Hydroelectric Power.* Controversy over the project has centered upon the proposed development, disposal, and sale of hydroelectric power, an objective designated as incidental or secondary by both federal and state law.

Power features of the project now definitely planned for construction comprise Shasta hydroelectric power plant and a main transmission line extending about 200 miles from this plant to a terminal substation in the vicinity of Antioch. Funds are available for the construction of these works. In addition, construction of an auxiliary steam-electric plant or plants is proposed in order to "firm" the hydroelectric output from Shasta.

Shasta dam is a multiple-purpose dam. Costs allocated to such objectives as navigation improvement and flood control will not be repaid. Recoverable costs will be repayable principally from the sale of water for irrigation and from the sale of electric energy. That share of the cost allocated to irrigation is to be repaid in 40 years without interest. Costs allocated to power are to be repaid in 40 years, but with interest at a rate not below 3 per cent.[12]

Since costs allocated to power must be repaid, it is desirable to market all Shasta power as soon as possible. The federal government cannot expect to receive a return on its investment at Shasta until the power market has absorbed the product of all other plants. Logically, then, in order to assure most effectively repayment possibilities, additional plants capable of interfering with the complete absorption of Shasta power should not be constructed. On the basis of these considerations, public power advocates argue that prompt marketing of Shasta power is dependent upon the organization of additional publicly-owned distributing systems. The evidence supporting this proposition is now examined briefly at this point.

A dependable kilowatt capacity of 250,000 to 300,000 kilowatts as measured at generation is expected.[13] All of California north of the Tehachipi Divide and west of the Sierra Nevada lies within the market area of Shasta power. Measured at generation, the power load in this market as of the year 1939 amounted to about 6,300,000,000 kilowatt hours with a maximum power demand of about 1,200,000 kilowatts. Since 1933 the power load has been increasing about 300,000,000 kilowatt hours annually on the average. The annual increase in maximum power demands has been between 50,000 and 60,000 kilowatts. State estimates indicate that future power demands will continue to increase, reaching a total of about 9,000,000,000 kilowatt hours annually with a corresponding maximum demand of nearly 1,700,000,000 kilowatts in 1950. Shasta power will be available in 1945. If, therefore, the capacity of existing plants is exhausted by that time, the power then available from Shasta will take care of new requirements for about five years at the present rate of growth.[14]

The market for Shasta power coincides, broadly, with that now served by the consolidated facilities owned or controlled by the Pacific Gas and Electric Company, a privately owned electric utility. Recent growth[15] in load on its

[12] 53 *U. S. Stat. at L.* (1939), 1187.

[13] The estimate of State Engineer Edward Hyatt, *Power Prospects of the Central Valley Project* (Sacramento, 1940), p. 4.

[14] Hyatt, *passim.*

[15] Since 1937, 150,000 kilowatts of electric power have been added by contract from Southern California Edison Company, Ltd.; since 1938 steam-electric plants with a combined capacity of 174,000 kilowatts have been built. Hyatt, *op. cit.*, p. 8.

system has compelled the Company to provide additional generating capacity.

What power, then, will the Company require once the Shasta plant is placed in operation? The answer, obviously, depends upon the power capacity of the plants the Company is allowed to construct in the meantime. In short, assuming private distribution of Shasta power, the government may receive no return on its investment from the Pacific Gas and Electric Company until the Company has absorbed the entire product of its own plants.

At the present time only the Pacific Gas and Electric Company possesses the electric facilities required for the distribution of project power. And, further, the Company will agree to take power only "insofar as this can be done without incurring financial loss." As stated by its president, ". . . we are prepared to operate our system, and particularly our storage reservoirs, in coordination with the Shasta Dam and Reservoir in whatever manner may prove to the greatest advantage in the absorption of Shasta power insofar as this can be done without incurring financial loss." [16]

There is no guarantee in this offer that the Company will take power at the price fixed by the United States. It appears, therefore, that publicly-owned electric systems must be organized if Shasta power is to be marketed promptly and if the government is to get a price that can repay and safeguard its investment.

*Determination of Appropriate Land-Use Pattern.* Land policies, it is assumed, should be designed to insure for farmers adequate incomes and the maintenance of their resources and those of the public, ends that may be realized only if major economic and social readjustments are instituted. Such readjustments involve (1) size of operating farm units, (2) patterns of tenure, and (3) the repayment of construction costs.

Reclamation law at present limits farm units to 160 acres. However, most of the total acreage in the areas to be served by the Central Valley Project is in holdings that are larger than the traditional family-owned and -operated pattern. Yet the greatest number of farms are small and these, it is held, contain less land than is considered to be necessary to support an acceptable standard of living.[17]

Corporate ownership is closely related to large-scale farming operations. In general, corporations are excluded as applicants for water on reclamation projects although there is no well-defined bar against such lending agencies as banks and insurance companies. Land ownership by this type of agency is most meaningful to accepted patterns of tenure. Studies prepared for the Select Committee to Investigate the Migration of Destitute Citizens show, for example, that as high as 98.4 per cent of the land in districts organized to receive Central Valley water is owned by corporations at the present time.[18] Most of the land so owned is undeveloped and appears to be in an extremely favorable position so far as water rights are concerned.

Non-resident ownership[19] is, in general, associated with corporate ownership.

[16] Letter of J. B. Black, Pacific Gas and Electric Company, to Frank W. Clark, State Director of Public Works, made public and released to the press November 27, 1939.

[17] The view of Dr. Walter E. Packard in testimony before House Select Committee to Investigate the Interstate Migration of Destitute Citizens, *Interstate Migration*, Part 8 (Washington Government Printing Office, 1941), p. 3277.

[18] *Ibid.*, p. 3278. Water, however, need not be sold to this or any other unit.

[19] A statement of the extent of non-resident ownership and tenant farming in areas to be served by the Central Valley Project is found in House Select Committee to Investigate Interstate Migration of Destitute Citizens, *op. cit.*, p. 3283 *et seq.*

In addition, most of the land held by non-residents is farmed by tenants. Concern over non-resident ownership in areas to be served by project water is, of course, sharpened by the provisions of reclamation law forbidding the sale of water to any but actual, *bona fide* residents. In short, national reclamation policy has always favored the ownership of farm land by those who till it; farms were to be family-owned and -operated. However, non-resident ownership and corporate operation of large-scale, mechanized farms dominate important parts of the project area.

The officially sponsored type of farm exists in part only. And it functions but inadequately where it does exist.[20]

What immediate readjustments are necessary may be seen when the close relationship between land problems and the question to which we now turn, the repayment of construction costs, is considered carefully.

All increments in land and franchise values created by the Central Valley Project, it seems to be agreed, must be assessed and must repay all construction costs fairly allocated to them. This proposition is supported by the legislative directives, state and federal, under which the project proceeds.[21] Increments in land and franchise values are bound to result. As a repayment asset, these must be controlled; farmers are not able or, even if able, should not be compelled to pay both speculative prices for land *and* the project's construction costs. How may increments in farm land value be controlled?

The public purchase of submarginal land within and bordering the project area is one method of control.

A second type of control, also designed to provide *bona fide* farmers with irrigable lands at non-speculative values, is represented by the Anti-Speculation Act of 1937.[22] Major provisions of the act include the appraisal of irrigable lands in the Columbia Basin Project area at their dry-land values without reference to the prospect of irrigation. The appraised value supplies a base rate for sale and purchase. Under the act one owner will be able to obtain a water right for only 40 acres; man and wife as joint owners can obtain a water right for 80 acres. Irrigable lands held over and above these amounts are designated as excess lands. These must be sold at not more than the appraised, dry-land values or else water cannot be obtained either for the land reserved by the original holder or for the excess land sold.

In its present form this plan for control of land speculation is unworkable in the Central Valley Project area and might even inflict hardship. The restrictions it places upon size of holdings are, from several standpoints, unsound.[23] Further, it may be noted that the law is not operative until repayment contracts are arranged with the irrigation districts.

[20] Cf., House Select Committee to Investigate the Interstate Migration of Destitute Citizens, *op. cit.*, Part 8, p. 3283, material submitted by Dean C. B. Hutchinson of the University of California. For detailed data on the standard of living on family-owned and -operated farms see pp. 3272-3273, 3284-3289.

[21] *Cal. Stats.* (1933) 2647; *Cal. Stats.* (1935), 2101; 53 *U. S. Stat. at L.* (1939), 1192.

[22] 50 *U. S. Stat. at L.* (1937), 208. This act was subsequently ratified by the state of Washington. See *Laws of Washington* (1939), 37.

[23] The size of farm units should be adjusted to the productive capacity of the land; the limits established by the act are inflexible. In addition, certain administrative problems might develop from the act's provisions limiting one owner to 40 acres and a man and wife to 80 acres. In the latter case, for example, death of either partner would prove particularly disturbing. Unavailability of contiguous units of either 40 or 80 acres will lead to undesirable farm practices. Finally, many operators now own hundreds of acres; 80 acres could not support the fixed improvements thereon.

Until the provisions of such contracts are binding, therefore, effective control is absent. Finally, in the case of the upper San Joaquin Valley, most of the irrigators secure a portion or all of their water from underground sources and consequently would escape this type of public control.

Government purchase of some 270,000 acres of good, but as yet undeveloped land in the area to be served by the Central Valley Project has been suggested as a necessary anti-speculation measure. As stated by Packard,

> "Some owners of large tracts of undeveloped land without water rights, in the area to be served by the Central Valley Project, are selling farms at prices as high as $175 per acre. Such prices make it utterly impossible for the buyers to meet normal operating costs plus any reasonable charge for water from the Central Valley project. In these cases the present owners of undeveloped land are selling their land at its dry-land value plus the cost of getting water to it. The buyer in such cases either pays the construction charges twice or defaults in his payments to the Government. . . . If the Government should purchase all undeveloped land at its dry-land value, the increment in land value would remain in public hands and the income normally passing into the hands of private speculators would go to the Government and would be available to meet construction costs. Such a program would add 3 to 4 per cent to the total cost of the project. But it would add appreciably to the repayment possibilities." [24]

It is believed by the writer that government purchase of undeveloped land, with subsequent resale to *bona fide* farmers is prerequisite to the establishment of effective public control. Such acquisition would facilitate necessary readjustments relating to the size of operating units and patterns of tenure and would protect repayment possibilities.

### *Administrative Agencies in Readjustment*

What existing administrative agencies or instrumentalities are there which could direct or bring about the economic and social readjustments found to be needed? What are their respective advantages and disadvantages? Can one or more of them be so modified as satisfactorily to meet existing and prospective needs? If so, what modifications are desirable? Keeping these questions in mind, discussion turns, first, to the Water Project Authority of the state of California and, second, to the United States Bureau of Reclamation.

### *Water Project Authority of California: U. S. Bureau of Reclamation.*

The Water Project Authority, a public corporation, differs from the familiar "special purpose district" only in name and absence of taxing power. Apart from its corporate organization and powers, the Authority is distinguished by its method of financing through revenue bonds, declared to be obligations of the Authority alone and not of other, regular governmental agencies.[25]

Governed by a five-man *ex officio* board, the Authority comprises as members the State Director of Finance, the State Director of Public Works, the State Attorney-General, the State Controller, and the State Treasurer, the last three being elected by the people of the state.

The internal administrative organization of the Authority is unsound. Students of public administration do not

[24] House Select Committee to Investigate the Interstate Migration of Destitute Citizens, *op. cit.*, Part 8, p. 3276.

[25] *Cal. Stats.* (1933) 2657 (Sec. 19).

believe that state officials, assigned numerous duties by constitution and statute, should be burdened with this type of *ex officio* board membership. The folly of permitting the electorate to select officers of this type whose *ex officio* duties call for technical qualifications not necessarily required by the positions to which they are elected should be apparent.[26] The state administration of Governor Culbert Olson is Democratic; the three elected members of the Authority, Republican. Unity of purpose has not been achieved and controversy within the Authority is generally carried to the press.

Administrative aspects of the Bureau of Reclamation, the second existing agency in the project area, are discussed briefly at a later point.

*Power Distribution: The Authority and the Bureau.* Distribution of power through public agencies, the present state administration has concluded, is necessary if maximum public benefits from the project works are to be insured and the investment in them safeguarded. Federal and state law, it might be added, both provide that preference shall be given to public agencies in the disposal of power made available on the project area.[27] In addition, the "recapture clause" [28] of the state act authorizes the Authority to cancel upon five years' notice any contract or lease for electric energy made by the Authority with private agencies.

The federal government has not thus far arranged for the disposal and distribution of electric power. If power is to be disposed of to public agencies, and if areas which are to obtain power from the project are not already in appropriate districts or state agencies, such districts must be organized into economic units and acquire or construct local distribution facilities and make ready for the purchase of power. It is therefore necessary for the state and local areas that are to receive the power to take the necessary steps to provide the required facilities.

Present responsibility for the organization of such facilities has been assumed by the state of California. As stated by Secretary Ickes in a letter to Governor Culbert L. Olson:

> "In the sale of Central Valley power, the State, or an agency of the State acting in the interests of a group of public agencies having power outlets would, under suitable conditions, be admirably qualified to receive the preference given in the law. The State of California, I feel, has a responsibility in connection with the Central Valley Project. This responsibility, in part at least, might be discharged by the State's making itself ready to act in the interests of public power distributors . . .
>
> If the State is to take all of the power which will be available, it will be necessary to organize and prepare public utility districts or other proper organizations in addition to those now existing within economical transmission distance of Shasta Dam. I believe this literally to be true. This responsibility, it seems to me, devolves principally upon the State. This brings up the question of financing the local power districts. On this point it seems clear that the State should prepare itself to finance these districts, or by legislation should permit them adequately to finance themselves." [29]

But the state agency, the Water Project Authority, is unable to meet that responsibility.

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[26] Cf., for example, the statement of Austin F. Macdonald, *American State Government and Administration* (New York: Crowell, 1934), pp. 295-6.

[27] 34 *U. S. Stat. at L.* (1906), 117; 53 *U. S. Stat. at L.* (1939), 1187; *Cal. Stats.* (1933), 2648.

[28] Section 9.

[29] Letter from Secretary of the Interior Ickes to Governor Olson, released January 22, 1940.

Legislation enabling municipalities and other public agencies to be effectively in the market for the absorption of Shasta power has been opposed and killed. The Garrison Revenue Bond Act of 1937 [30] was held up by referendum [31] and defeated.

Governor Olson's inaugural address in 1939 outlined the approach to be taken by his administration on the power issue: "It shall be the purpose of this administration to promote the means for public ownership and operation of plants and distributive facilities for the distribution of this electric power at cost." [32]

Thus, Governor Olson in a letter to the Secretary of the Interior on February 15, 1939, proposed that the state enter, through the Water Project Authority, into a contract with the United States providing for the Authority to operate and maintain the project upon completion; to repay the reimbursable costs of the project to the United States by revenue from the sale of water and electric power to public and private agencies; to construct with federal financial assistance an auxiliary steam-electric plant at Antioch and necessary transmission and distribution facilities required for economic disposal of electric power; and "to direct and assist in the organization of public districts to contract with the Authority for the purchase of water and power." [33]

Governor Olson's "most important if not his major government objective" was "early public distribution of power and water through the medium of the Central Valley Project." [34] Required first step was the organization and construction of publicly-owned electric power distribution systems. Only by amending the Central Valley Project Act of 1933, releasing revenue bonds authorized by the Act and thus making possible their use to help finance public utility districts, could the Water Project Authority take that first step. Necessity for such amendment developed from the fact that the 1933 act did not meet changes brought about by the adoption of the project by the Bureau of Reclamation.[35]

A bill [36] was introduced which would remove the present restrictions upon the Authority to issue bonds. The proposed legislation, endorsed by President Roosevelt and Secretary Ickes, was defeated by an Assembly minority [37] in the last hour of the 1939 session. The Governor therefore included in the agenda for a special session of the legislature called in January, 1940, an amendment to the 1933 act which would release up to $50,000,000 [38] of the revenue bonds authorized by that act.[39]

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[30] *Cal. Stats.* (1937), 120.

[31] Referendum vote on the act at the November, 1938, general election resulted in its defeat, 511,305 to 1,350,861.

[32] Inaugural Address of Governor Culbert L. Olson, *Journal of the Assembly*, Fifty-third Session, (1939), pp. 31-32.

[33] Summary of this letter appears in Unsigned, "Water Project Authority Approves Proposed Legislation for Central Valley Project," *California Highways and Public Works* (May, 1939) p. 1.

[34] *Loc. cit.*

[35] The 1933 act required that the amount of bonds authorized shall be reduced by such amount as the state or federal government may "contribute" to the construction of the project.

[36] S. B. No. 1259, Fifty-third Session (1939).

[37] The bill was in fact defeated by a minority, falling two votes short of the necessary two-thirds.

[38] S. B. No. 1259, the 1939 proposal, would have unfrozen the entire $170,000,000 bond issue for use by the state in assisting the organization of public agencies.

[39] Unsigned, "Governor Olson 'Will Carry on Fight to Bring People Water and Power at Cost'," *California Highways and Public Works*, (October, 1939), p. 4; Cf., also, "Governor Olson 'Asks Solons to Unfreeze $50,000,000 in Central Valley Project Bonds'," *Ibid.*, (February, 1940), p. 1. The view

(Footnote 39 continued on page 309)

Supported by Secretary Ickes [40] but opposed by the elected Republican members of the Water Project Authority,[41] the proposal was tabled by committees of both the Senate and Assembly on February 13 and refused floor consideration in either body. Today, therefore, only the Pacific Gas and Electric Company possesses the electric facilities required for the disposal of project power and the company will agree to take power only "insofar as this can be done without incurring financial loss." [42] Olson, despairing of favorable legislative action, has recommended that a federal regional authority be established in the valley.[43]

Prospects, then for the organization by the Water Project Authority of public districts with their own electric distribution facilities are not bright. As matters stand, the Authority cannot meet existing power needs and it appears unlikely that it will be modified so as to meet such needs satisfactorily.

The Bureau of Reclamation, assuming a responsibility lodged with the state of California, can provide for the distribution of power through public agencies. Indication of the ability of the Department of the Interior to proceed rapidly with a program of public power distribution is provided by the Bonneville Power Administration, an office in the Department which transmits and markets the energy from Grand Coulee and Bonneville Dams.[44] Establishment of a Division of Power in the Department of the Interior, reporting directly and only to the Secretary, for the purpose of supervising all policy and administrative functions of Interior agencies in connection with electric power, evidences further readiness to push the Department's power program forward.[45]

Further organization of public electric facilities may be facilitated by the financial resources of the federal government. The question,—Do prevailing legal considerations uphold the right of the federal government, through the Bureau, to lend funds and make grants to municipalities and other public agencies for the distribution of Shasta power?—is answered affirmatively. Two recent cases point to the constitutionality of such action.[46] The Bureau, then, might facilitate the organization of publicly-owned electric systems within economic transmission distance from Shasta.

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that an organized lobby, as contended by the Governor, played an important role is held by Professor Guido Marx who writes, " . . . the bill was met by the pressure of an overwhelming lobby" ("Shasta Dam Distribution: A Progress Report," *The Commonwealth,* (March 26, 1940), pp. 239-240). Professor John McDiarmid of the University of Southern California observes, "Bills to effectuate this program (the issuance of revenue bonds to help in financing and organizing public districts), vigorously opposed by the utilities, failed of passage during the heated 1939 session, which saw so little of the governor's proposed legislation adopted," *American Political Science Review* (April, 1940), p. 304.

[40] Unsigned, "Federal-State Groups Act to Unfreeze $50,000,000 in Central Valley Project Bonds," *California Highways and Public Works,* (January, 1940), p. 1

[41] The division in the Water Project Authority was carried to the press. See, for example, "State's Water Authority Split—Tie Vote Recorded on Unfreezing Central Valley Project Funds," Los Angeles *Times* (January 24, 1940).

[42] Cf., footnote 16.

[43] "Central Valley Project," First Biennial Message of Culbert L. Olson, Governor of the State of California, to the Fifty-fourth California Legislature (January 6, 1941), p. 32.

[44] Vernon M. Murray, "Grand Coulee and Bonneville Power in the National War Effort," *The Journal of Land and Public Utility Economics* (May, 1942), pp. 134-139.

[45] Unsigned, "New Division of Power in the Department of the Interior," *The Reclamation Era,* (June, 1941), p. 164.

[46] Alabama Power Co. *v.* Ickes, 302 U. S. 464 (1938) and Duke Power Co. *v.* Greenwood County, 302 U. S. 485 (1938). Both decisions were unanimous and were handed down on January 3, 1938.

*Determination of an Appropriate Land-Use Pattern: The Authority and the Bureau.*

Questions relating to the land-use pattern, as urgent as those concerning the disposal of power, are not, according to many, a proper concern of the Water Project Authority and such questions have been given little attention by the Authority. Many of the obstacles that confront the development of the cooperative research effort so obviously a prerequisite to solution of the many problems surrounding the use of land inhere in the situation; these must be faced regardless of the unit of administration. Other obstacles, however, might be surmounted providing the designated coordinating agency offered effective leadership and had available sufficient financial resources.

It is believed by the writer that the Bureau of Reclamation might coordinate the needed research by capitalizing upon the University of California's strong tradition of public service, stimulating the interest and activity of the numerous county planning commissions in the project area,[47] and enlisting the cooperation of the various interest groups.[48]

Basically, however, readjustments affecting land use will require the exercise of an effective public control; this, it is urged, may best be achieved through government purchase of irrigable land and subsequent resale to *bona fide* farmers. The Bureau of Reclamation appears to be capable of exercising that control. As in the case of power distribution, these aspects of the project are not to be solved easily, if at all, by the Water Project Authority.

*Possibilities of a Federal Corporate Authority.*

The Bureau of Reclamation is constructing the project works. On the basis of practical considerations the prospects for the maintenance and operation of those works appear to center in that Bureau, but include also a new type of organization, the federal corporate regional authority.

Space limitations forbid discussion of the view that the federal corporate authority provides an appropriate type of agency for regional planning and development and that in comparison with the Bureau or any feasible modification of it the authority is the superior administrative device and possesses greater permanent usefulness.[49] Study of the relative value of the two types of organization—as alternative administrative units in California's Central Valley—is an urgent need.

*Conclusions*

Is a modified or new administrative organization needed to accomplish fully the objectives of the Central Valley Project? If so, what type of organization will promote in largest measure the interests of the public in the project?

The Water Project Authority of California cannot direct or bring about the needed readjustments; these, it is believed, might be effectuated by either the Bureau of Reclamations or a federal cor-

[47] Cf., California State Planning Board, *California Planning: 1939* (Sacramento: State Printing Office, 1940), p. 12, for a survey covering their achievements on the basis of extremely limited financial support.

[48] Cf., proposal of Dr. Walter E. Packard in testimony before House Select Committee to Investigate the Interstate Migration of Destitute Citizens, *op. cit.*, p. 3294.

[49] Cf., The general comments of Leonard D. White, *Introduction to the Study of Public Administration* (rev. ed.; New York: MacMillan, 1939), p. 129.

porate authority. For the present, however, continuation of the Bureau of Reclamation, the agency charged with the project's construction, as administrative unit seems most consistent with the public welfare.

Important research on the project's administrative aspects has not yet been undertaken and no definite conclusions can be reached. Thorough study of the administrative problem is an immediate need. A decision relative to that problem will stem from an evaluation of the type of economic and social considerations partially explored in this article. Needed study should center upon and seek answers to the following questions:

(1) What types of farm economy are best suited to the project area?

(2) What policy or policies should be adopted in order to control properly land and water use?

(3) How may the facilities needed to distribute electric energy be most advantageously planned? To what extent and how may the government most effectively encourage the formation, as required, of public electric distribution districts?

It is recommended that joint investigations be organized by the Bureau of Reclamation and that every agency—public or private—with relevant experience and knowledge participate on a cooperative basis. Organization of the study would include such agencies, on the federal level, as the National Resources Planning Board and the Corps of Engineers; the Water Project Authority, Department of Natural Resources, Division of Water Resources, and the Division of Highways on the state level; directors of irrigation districts; the Pacific Gas and Electric Company; chambers of commerce; farm and labor organizations; and the University of California.

# Uniform Freight Classification and the Interstate Commerce Commission

*By* FRANK L. BARTON *

THE railroad freight-rate structure is the most elaborate system of class pricing in the national economy. While freight-rate scales have received considerable attention, comparatively little notice has been bestowed upon freight classification, the silent partner in railroad rate making. And this despite the fact that rate scales and freight classification are inextricably intertwined in their functions.

For each of the major freight-rate territories, a scale of first-class rates, known as a distance scale, has been prescribed by the Interstate Commerce Commission. In these first-class rate scales the charge increases as the rate increases, but the increase in charge does not progress in direct ratio to the increase in distance. For example, in Official Territory the first-class rate for hauling 100 pounds of freight 10 miles is 34 cents; for 25 miles the charge is 40 cents; for 100 miles, 62 cents; and for 300 miles the first-class rate is 96 cents.[1] The Official scale covers distances up to and including 1500 miles, sufficient for any traffic movement within Official Territory.

As all freight obviously cannot move on the comparatively high first-class rates, systems of freight classification are used for placing each commodity offered for shipment in a class considered to be an appropriate percentage of first class. In traffic terminology this is known as giving the article a "rating." Second class, for instance, is 85 per cent, and third class, 70 per cent of first class. One hundred pounds of an item rated third class in Official Territory moving 300 miles incurs a rate of 70 per cent of first class for the distance (70 per cent of 96 cents), which is 67 cents. The rate scales and the classification are used together to make rates known as "class" rates, which is literally the correct economic designation.

The highest ratings are given the articles of greatest value, generally manufactured goods, which can bear higher rates. The lowest classes contain bulky articles of low value, usually raw materials, which could not move except under low rates. To the intermediate classes are assigned articles in accordance with their relative ability to bear transportation charges.[2]

Obviously, the purpose of freight classification is to maximize the return from traffic in each class. The theory is to classify each kind of freight low enough to encourage the largest possible movement of that traffic yet high enough to cover direct handling cost plus as much as possible toward total costs.

In classifying an article of freight for rail movement a number of factors are considered. The direct cost of handling the article as influenced by its bulk and weight is taken into consideration. Gen-

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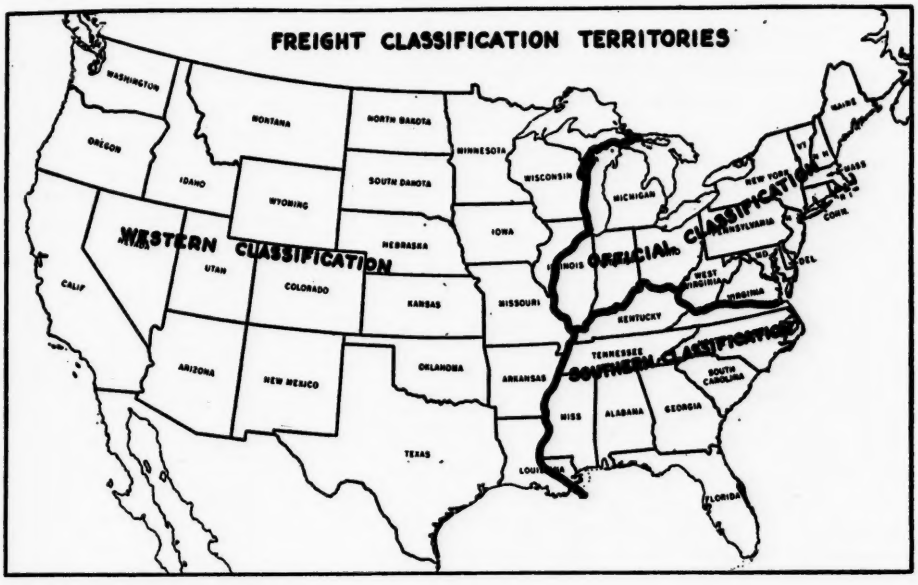
[1] The freight rates given in this paper are subject, effective March 18, 1942, to a general increase of 6 per cent. The I.C.C. has held that authorization for the increase shall expire 6 months after the termination of the war. Cf., *Ex Parte 148*, 248 ICC 545, 613 (1932).

[2] Western Classification 68, for instance, contains 14,836 ratings. Cf., *Answers* of Western Classification Committee to ICC Questions 1, 2, 3, and 4 in ICC Docket 28310, August, 1940, p. 7.

CHART I




erally an article requiring heavy expense for its handling will be assigned to a class higher than that given articles with similar characteristics aside from incurring high direct handling costs. A factor of great importance is the relative ability of the various articles to bear freight charges either higher or lower than the direct costs attributed to handling them, which is dependent on the value of the article.[3] Other factors include method of packing the article, the rating given analogous and competing commodities, and liability of the article to damage while being shipped.[4]

Although systems of freight classification and class-rate scales are basic in rate making, a comparatively small amount of rail tonnage moves on the structure so provided. Most of the traffic moves on what are known as "exceptions to the classification" and "commodity rates." An exception to the classification places an article of traffic in a class other than that provided by the classification, supposedly in response to some compelling condition. A commodity rate, usually lower than the class rate it displaces, is quoted directly on a specific movement of traffic between specified points and applies only to those particular movements.

[3] The development of competitive transportation agencies, such as trucking, that assign little weight to value has reacted upon the policies of railroad freight classification so that less stress is being placed upon value and more is given to weight and bulk of the freight.

[4] In the early classification of freight the Western Classification Committee worked out "classification units" for each item classified, by taking weight per cubic foot, value per pound, and number of cubic feet per 100 pounds and striking an average of these unlike quantities. The units so obtained allowed a basis of comparison that was only indicative and did not determine finally the classification of an article. Cf., 25 ICC 442, 451 (1912).

### *1. Railroad Freight Classification Development*

As explained above, freight classification is the assignment of each kind of freight to a group having a stipulated percentage relationship to the first-class rate. Each of the groups is known as a class and is identified by a number or letter, or a combination of the two. Thus a number of articles are assigned to move under each class, making a separate rate scale for each unnecessary.

In addition to the columns in which ratings are assigned to articles of traffic, a freight classification system is made up of regulations having to do with relations between carrier and shipper,[5] commodity descriptions, packing specifications, and minimum weights applicable to freight shipments. Very appropriately it has been said that classification is the foundation of rate making.

The Interstate Commerce Commission has reiterated that uniformity of classification throughout the country is an *essential* part of the general scheme which contemplates greater consistency in rate making and elimination of discriminations and inequalities.[6] It is obvious that there cannot be uniformity in charges for shipping like traffic in the various rate territories as long as freight classification is not on a uniform basis.

Despite the Commission's declaration, freight classification in the United States is governed, not by one uniform system but by three systems of classification. These three are published in one volume titled *Consolidated Freight Classification.* The three classifications are termed the Official Classification, the Southern Classification, and the Western Classification. Official and Southern Classification territories correspond nearly to the rate territories bearing the same names. Western Classification territory comprises the area west of Chicago and the Mississippi River. The freight classification territories are shown on Chart I. The traffic movements upon which the classifications apply generally are:[7]

| *Classification* | *Applying to traffic movements* |
|---|---|
| Official | 1. Within [8] Official<br>2. From Western Trunk-Line to Official |
| Southern | 1. Within Southern<br>2. Between [9] Official and Southern<br>3. From Western Trunk-Line to Southern |
| Western | 1. Within and between Western Trunk-Line, Mountain-Pacific, and Southwestern<br>2. Between Southwestern on one hand and Official and Southern on the other<br>3. From Official to Western Trunk-Line<br>4. Between Mountain-Pacific and Official<br>5. From Southern to Western Trunk-Line<br>6. Between Mountain-Pacific and Southern |

In view of the Commission's early reiterations on the desirability of uniform freight classification, the acceptance and adoption of classification on a regionalized basis is one of the anomalies of American transportation practice. Later the Commission practically abandoned

[5] These rules, known in traffic parlance as "rules and regulations," not only govern the relationship between shipper and carrier on freight moving on class rates but on commodity rates as well.

[6] 54 ICC 1, 9 (1919).

[7] The most important exception is the Illinois Classification, applying within the State of Illinois and southern extremity of Wisconsin.

[8] *Within*—traffic moving entirely within a territory.

[9] *Between*—traffic from either territory to the other.

its stand for uniform classification, but in 1939 a proceeding was initiated to consider the feasibility of establishing classification on a nation-wide basis. An account of the vicissitudes of uniform classification logically falls into three periods: prior to and including 1887, from 1888 through 1918, and from 1919 to the present.

## *II. Classification Prior to and Including 1887*

In the early days of railroads, classification of freight was patterned after that used for boats and wagons and did not follow any definite standards, each road having its own practice. Usually only a small variety of traffic moved on any one short railroad; so the needs for freight classification were rather simple. One railroad designated its traffic as "light goods," "heavy goods," "case goods," "logs," and "whiskey"—a far cry from the modern freight classification containing approximately 15,000 ratings.

According to an estimate, there were at one time in Eastern Trunk-Line Territory alone 138 systems of freight classification, each made up for the rail line to which it applied.[10] The increased interchange of traffic between railroads called for systems of classification more comprehensive than those applying on a single railroad. Consequently, in the territory east of the Mississippi River and north of the Ohio and Potomac Rivers five organizations of railroads used the following classifications: the trunk-line west-bound classification, the east-bound classification, the joint merchandise freight classification, the middle and western states classification, and the east and south-bound classification.[11] Often a number of classifications were in effect on one railroad: one for local traffic,[12] one for through traffic [13] in one direction, another for the opposite direction; and one or more applying to traffic moving to or from a particular section of the country.

This multiplicity of classifications caused great confusion. It was difficult for the railroads to quote accurately rates on a shipment moving over a route composed of several railroads, and shippers often were forced to pay higher charges than anticipated because of the differences in classification between rail lines. The need for more nearly uniform freight classification was acute. With the passage of the Act to Regulate Commerce of 1887 a stimulus was provided for uniformity in freight classification because by the Act unjust discrimination was made unlawful.

Establishment of the Official Classification was the initial move of importance in regional classification uniformity. Despite the large number of classifications [14] in effect within the territory east of the Mississippi and north of the Ohio and Potomac Rivers, a committee appointed by the railroads in that area on February 18, 1887, "with a zeal and pertinacity unprecedented," [15] finished its work on March 1, 1887, after only eleven days, of consolidating the numerous classifications into one classification. It was approved by the carriers with a few changes and became effective with the Act on April 1, 1887.[16] In the light of

[10] 25 ICC 442, 453 (1912).

[11] For the exact application of each of these classifications, see 2 ICC 454 (1889).

[12] *Local traffic*—traffic moving on only one road.

[13] *Through traffic* is that moving on more than one rail line.

[14] Approximately 50 classifications were in effect in the United States in 1886. *Eleventh Annual Report of the Interstate Commerce Commission*, 1897, p. 62.

[15] *Fifth Annual Report of the Interstate Commerce Commission*, 1891, p. 24.

[16] 2 ICC 455 (1889).

subsequent classification experience, it is almost unbelievable that a classification for region-wide application to Official Territory was drawn up and approved between February 18 and April 1, 1887. This sets a record for speed which might well have been taken as a model in subsequent classification procedure.

A joint western classification, predecessor of the present Western Classification, was adopted by several railroads extending west from Chicago in 1883. Gradually it was adopted by all rail carriers west of Chicago.

The Southern Railway and Steamship Association, a pooling arrangement set up in 1875 for railroads south of the Ohio and Potomac Rivers and steamships connecting these roads with Boston, New York, Philadelphia, Baltimore, and Providence, initiated a classification that later became effective in the territory east of the Mississippi and south of the Ohio and Potomac. This classification was the forerunner of the present Southern Classification.

The year 1887 found the basis laid for freight classification as it exists today. The three principal classifications in force were: (1) Official, applying to the territory east of and including Chicago and north of the Ohio River; (2) Western, applicable west, north, and southwest from Chicago and St. Louis; and (3) Southern Railway and Steamship Association, in force in much of the territory south of the Ohio and Potomac and east of the Mississippi. Between each of these classifications the number of classes, relationships of one class to another, descriptions of articles, packing requirements, and other rules governing the shipment of freight varied widely.

In September, 1887, a committee of railroad representatives was appointed to attempt to merge Official and Western Classifications because, the railroads noted, the progress of events pointed plainly in the direction of uniformity.

### *III. Classification from 1888 Through 1918*

On July 20, 1888, the committee that was attempting to consolidate Official and Western Classifications reported inability to submit a joint classification. A series of disastrous rate wars in which the western roads were involved was given as a reason for failure to agree. The report of the committee, however, indicated disagreement on the relation of carload and less-than-carload rates. The eastern carriers wanted no increase in the differences between the two, while the western carriers wanted less-than-carload traffic restricted to the first four classes.

Shortly after the above announcement, in September, 1888, legislation was passed by the House of Representatives directing the Interstate Commerce Commission to prescribe before January 1, 1889, one uniform classification for the railroads of the United States engaged in interstate commerce.[17] The Senate did not act upon the resolution on the ground that the railroads would adopt a uniform classification if given time. At a conference of the rail carriers in December, 1888, a standing committee was appointed for unifying as rapidly as consistent the several freight classifications in effect.

A few months after these steps toward a nation-wide classification were taken,

[17] *Seventh Annual Report of the Interstate Commerce Commission*, 1893, p. 53. The Commission's report stating that a resolution was passed is apparently in error because diligent search of the *Congressional Record* fails to disclose passage of the resolution. The *Record* (September 13, 1888, p. 8577), however, shows that an amendment to S. 2851 was passed by the House authorizing the ICC to prescribe uniform classification.

the rail lines south of the Ohio River and east of the Mississippi River adopted the classification of the Southern Railway and Steamship Association. Practically all railroads west of a line drawn from New Orleans to Chicago had already adopted Western Classification. Regionalism in freight classification was near completion at the time that a majority of the House of Representatives voted for a single classification.[18]

The committee on classification held sporadic meetings and finally, in June, 1890, a classification containing eleven classes was agreed upon and recommended for adoption by all railroads—to be effective January 1, 1891.[19] The outlook for adoption by the carriers was so favorable that the Interstate Commerce Commission in 1890 stated that a long step had been taken toward unification and the Commission "with the highest gratification, affirms its confidence that the time is not far off when one classification of freights for the purpose of rating for transportation by rail will cover the whole territory which is subject to the Constitution and laws of the United States."

Using the difficulties accompanying the adoption of a uniform classification as the reason, the carriers extended the effective date of the proposed classification to March 1, 1891. In the meantime objections arose which appeared insurmountable to the carriers; when March 1 arrived the classification had not been adopted. The session of Congress ended about this time and with it ended further efforts of the railroads for a uniform classification. It was reported that the Western roads stood ready to repudiate the proposed uniform classification, but it was the action of the Eastern trunk lines in withdrawing that made such action unnecessary.[20]

In 1891 the Interstate Commerce Commission recommended that less indulgence be given the railroads and that an act be passed by Congress requiring the carriers to adopt within one year from date of passage a uniform classification of freight for all carriers subject to the Act to Regulate Commerce. It will be recalled that the Commission had previously taken the position that as long as the carriers were attempting to draw up a uniform classification the work should be left in railroad hands.

In 1893 the Commission renewed the recommendation that Congress force the carriers to adopt a uniform classification, pointing out that the products of each region of the United States reach every other section and that the margin of profit is so narrow that often an error in rates because of differing classifications takes away the profits of doing business.[21]

Recognition that freight classification was fairly well hardened in a regional mould came from the ICC in 1894 when it was stated that there had been no appreciable advance toward uniform classification since 1890, the use of three classifications by the carriers constituting much of the cause of failure to progress toward uniformity. It was further recognized that each of the three regional groups of carriers apparently had reached the limit of voluntary action toward classification uniformity. Virtual abandonment of further efforts to unify the classification, so the Commission ob-

[18] 2 ICC 455 (1889) and 25 ICC 455 (1913).

[19] "Report of the Standing Committee on Uniformity in Freight Classification," *Fourth Annual Report of the Interstate Commerce Commission*, 1890, pp. 233-239.

[20] The objections of the Eastern railroads to the proposed classification may be found in the *Eleventh Annual Report of the Interstate Commerce Commission*, 1897, p. 64.

[21] *Seventh Annual Report of the Interstate Commerce Commission*, 1893, p. 55.

served, appear to call for federal legislation to that end. Apparently realizing that the possibility of obtaining freight classification voluntarily upon a national basis was remote, the Commission offered to undertake the task of making a uniform classification, recommending that July 1, 1896, be set by law as the final date for such action.

In its annual report for 1897 the Commission observed that no practical advance had been made toward uniform classification since the passage of the Act to Regulate Commerce in 1887, except the absorption of a few rail lines having independent classifications by those using the three principal classifications. The apathy of the carriers on the subject again led the regulatory body to urge Congress to cause a uniform classification to be filed with the Commission within one year. Among those recorded as favoring uniform classification were included shippers generally, various trade organizations, and the National Association of Railway Commissioners.

In the decade following 1897 the interest of the Commission in uniform classification ebbed. In its annual reports uniform classification is barely mentioned and was sometimes grouped for legislative attention with such subordinate matters as ticket scalping and free passes. By 1907, however, the matter had taken on renewed importance, because of the Hepburn Act of 1906 which provided for through railroad routes and rates, thereby increasing the need for classification uniformity. The railroads appointed a temporary committee of 15 members, 5 from each classification territory, to consider whether uniformity could be attained and to suggest a method of procedure. The committee reported that while establishment of a uniform classification was not feasible immediately, it could ultimately be worked out in a satisfactory manner. It was recommended that uniformity in the rules governing the classification, descriptions of articles, packing requirements, and minimum carload weights could be attained and should be worked out before uniform classification could be adopted. As a result of the temporary committee's recommendations, a central committee on uniform classification began work on September 15, 1908.[22]

Within two years the rules and regulations of the separate classifications had been made uniform and much had been done toward unifying descriptions of articles and minimum carload weights, but the fundamental problem of determining a uniform number of classes was left unsolved. In 1911 the Commission insisted that uniformity of rating was necessary and recommended that five years be given the carriers by Congress to accomplish such uniformity.

By 1914 the Interstate Commerce Commission began to give up the idea of uniformity, conceding that uniformity in classification ratings could satisfactorily be brought about only by gradual changes. It is surprising, in the light of previous statements, that uniformity in ratings was said by the Commission to be less important than uniformity in rules, descriptions of traffic, packing requirements, and minimum carload weights.

Between 1914 and 1918 the Commission was apparently resigned to accepting classification ratings upon a regionalized basis, holding that uniformity in ratings must come slowly and gradually and after uniformity had been gained in other portions of the classification.[23] The Commission's statement, in 1916, that "the existing classifications have grown up in the light of conditions pre-

[22] 25 ICC 442, 458 (1912).

[23] *Twenty-Ninth Annual Report of the Interstate Commerce Commission*, 1915, p. 14.

vailing in the different classification territories and business has adapted itself thereto," [24] marks quite a departure from the original attitude and recommendation that uniformity in classification be made effective within one year.

Noting that the work of the committee on uniform classification, which had functioned for about ten years, should be crystallized, the ICC in 1918 requested that the carriers submit on January 1, 1919, an assimilation of the three classifications into one volume, uniform in regard to commodity descriptions and regulations but not classification ratings. Concurrently the Director General, Railroad Administration, appointed a committee to finish the work delegated in September, 1908, to the carriers' committee on uniform classification, the progress of which had been disappointingly slow.

Despite the recognition of regionalized freight classification for practical use, the thought of uniformity was retained by the Commission because the annual report for 1918 declared that the ideal situation would be complete uniformity in ratings and a definite relationship in percentages of the several classes to first class.

### *IV. Classification from 1919 to the Present Time*

The special committee [25] appointed by the Director General submitted "Proposed Consolidated Freight Classification No. 1," into which the Director General requested the Interstate Commerce Commission to make an investigation and give recommendations relative to adopting the classification for use by carriers under federal control.

The representatives of each classification committee had undertaken to realign ratings in his own classification, and while there was no concerted effort to make the ratings uniform, "the desirability of uniformity seems to have been kept in mind." As a result of the investigation, the Commission accepted uniform descriptions of articles, uniform minimum weights, and uniform packing requirements as proposed by the committee, but approved only a few changed classification ratings.

The major portion of the changes were not allowed because most of them were increases on which shippers had not been given a chance to be heard. In addition, it was asserted that a study of proposed changes in ratings disclosed inconsistencies which the Commission could not endorse. The ICC reiterated that a uniform classification, with such exceptions and commodity rates as may be necessary, is practicable and desirable and should not be unnecessarily delayed and that uniformity is essential to greater consistency in rate making and elimination of discriminations and inequalities.

It was noted that placing the ratings in three parallel columns in the consolidated classification opposite the descriptions of traffic stresses the lack of consistency existing among the three classification territories. Many of the differences in ratings are not due to actual differences in conditions, but come from mere differences of opinions of traffic officials. While there was agreement that many of the inconsistencies in classification could be removed without change in rate scales, the Commission struck a key note by observing that a uniform classification would be successful only in

[24] *Thirtieth Annual Report of the Interstate Commerce Commission*, 1916, p. 13.

[25] Consisting of the chairman of the committee on uniform classification, the chairman of the Official and Western Classification committees, a member of the Southern Classification Committee, and the classification agent of the Interstate Commerce Commission. 54 ICC 1, 3 (1919).

connection with a universal system of rate scales having a uniform number of classes. The following 10 classes were suggested for nation-wide application and their percentage relation to first class:[26]

| Classes | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Percentages | 100 | 85 | 70 | 60 | 45 | 35 | 30 | 25 | 22½ | 20 |

These uniform classes were considered merely ideals to be gained later, because the Commission took no effective action to institute uniform classification and a single rate scale either then or in 1920 when the railroads were returned to private control.

After due consideration by the Commission, *Consolidated Freight Classification Number 1* became effective December 30, 1919. This single volume incorporated separate issues of the Official, Southern, and Western Classifications having (with a few exceptions) uniform rules and commodity descriptions, packing specifications, and minimum weights. Needless to say, the classification ratings were not uniform.

The Consolidated Classification Committee, created during the existence of the Railroad Administration, has been made a permanent organization. It consists of the chairman of the three regional classification committees. The committee has been instructed to maintain uniformity in rules and other features of the classification except ratings, which are made by each territorial committee for its territory.

In 1922 the Commission stated that two conditions operate to prevent complete uniformity of freight classification: (1) varying relationships which the lower classes bear to the first-class rate in different sections of the country; and (2) the maintenance of a class scale of a varying number of classes as between different rate territories. In the general investigations of rates conducted in Official, Southern, Southwestern, and Western Trunk-Line Territories, however, the Commission approved, with characteristic inconsistency, both of these conditions by incorporating them into the class-rate structures prescribed. The standard classes prescribed and the relation each class bears to first class for the various rate territories are:[27]

Southern

| Classes | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percentage relationships | 100 | 85 | 70 | 55 | 45 | 40 | 35 | 30 | 25 | 22.5 | 20 | 17.5 |

Southwestern and Western Trunk-Line

| Classes | 1 | 2 | 3 | 4 | A | 5 | B | C | D | E | .. | .. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percentage relationships | 100 | 85 | 70 | 55 | 45 | 37.5 | 32.5 | 30 | 22.5 | 17.5 | | |

Eastern or Official

| Classes | 1 | 2 | 3-R25 | R26 | 4 | 5 | 6 | .. | .. | .. | . |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Percentage relationships | 100 | 85 | 70 | 55 | 50 | 35 | 27.5 | .. | .. | .. | .. |

NOTE: R25 is an abbreviation of rule 25 class. R26 is an abbreviation of rule 26 class. Formerly there was a difference between third class and rule 25, but they now bear the same relation to first class.

Mountain-Pacific

| Classes | 1 | 2 | 3 | 4 | A | 5 | B | C | D | E |
|---|---|---|---|---|---|---|---|---|---|---|
| Percentage relationships | 100 | 85 | 70 | 60 | 50 | 50 | 40 | 30 | 25 | 20 |

*Consolidated Freight Classification Number 15,* now effective, retains the same basic form in which it was published in 1920. There have been revisions both upward and downward in various ratings, but the regionalized basis with Official, Southern, and Western Classifications still persists.

Several factors are pressing on the present system of railroad freight classification. The truck with its relatively flexible classification practices has taken a great deal of traffic from the railroads. Rail classification has felt the impact of freight forwarders that consolidated less-

[26] 54 ICC 1, 11 (1919).

[27] In addition to the standard classes, other ratings known as column ratings bearing a percentage relationship to first class are used. A traffic survey conducted by the Association of American Railroads on less-than-carload traffic for the period September 8-14, 1939, showed over 120 ratings in use within Official Territory and over 150 in use in the South for less-than-carload traffic alone.

than-carload traffic gathered from shippers and ship it at carload rates.[28] To meet these new competitive conditions the railroads have adopted the practice of maintaining special "all-commodity" rates that disregard the generally accepted principles of classification by allowing a heterogeneous mixture of traffic to be shipped in a freight car under one rate. These influences, among others, account for the fact that only a small percentage of the total traffic moves at the present time on ratings provided by the classification, especially in territories other than Official. Judging from present indications, it is probable that the close of another period of railroad freight classification practice is rapidly approaching. Action by the ICC toward such an end will be examined presently.

### *V. Difficulty of Obtaining a Uniform Level of Interterritorial Rates Under Present Classification and Class Rate Structure*

That the use of the regionalized system of freight classification with the various levels of class rates is unsatisfactory for handling a flow of interterritorial traffic is easy to demonstrate. For instance, in the comparatively few instances in which the ICC has held that manufactured products from the South should move into Official Territory on a rate level equal to that prevailing within Official, considerable difficulty has accompanied attempts to use the present classification and class-rate scales to establish the rates.

The following example will serve to illustrate the difficulties involved in trying to construct class rates from one rate territory to another on a uniform basis. The Commission held that rates no higher than the Official level shall apply on stoves from the South to Official Territory.[29] Within Official Territory, stoves in carloads, generally move on 35 per cent of first class. For a 400-mile haul in Official Territory, for example, 35 per cent of first class gives a rate of 38 cents per 100 pounds.

Because the interterritorial level of rates between the South and Official Territory is considerably higher than within Official (35 per cent of the interterritorial first-class rate for a 400-mile haul equally divided between the two territories being 51 cents, or 135 per cent of the similar rate of 38 cents for Official), the Commission attempted to bring the north-bound interterritorial rates down to the Official level by giving stoves a classification rating of 25.5 per cent of first class for the haul. In other words, an attempt was made by lowering the classification rating to compensate for the difference between the interterritorial and Official rate scales.

Such practice does not give uniformity, however. As a result of lowering the classification rating to 25.5 per cent of first class, the shippers with only a small portion of the interterritorial haul in Southern Territory and a large part of it in Official will have a rate lower than the Official level of rates. To illustrate: When 50 miles of a 400-mile haul from the South to the North is in Southern Territory and the remaining 350 is in Official, 25.5 per cent of first class is 31 cents, or about 82 per cent of the 38-cent rate for the 400-mile haul in Official. With 100 miles of the haul in the South and 300 in the North, the rate is 34 cents, or approximately 89 per cent of the 38-cent Official rate for 400 miles.

[28] Cf., Frank L. Barton and R. Bruce McGehee "Freight Forwarders," *Harvard Business Review*, Spring 1942, pp. 336-347.

[29] 235 ICC 255 (1939).

Obviously none of these rates accomplish parity with the Official level.

On the other hand, when a great deal of the interterritorial haul is in the South and a small amount of it is in Official Territory, the rate is higher than the Official level for the shipper having most of his haul in Southern Territory. For example, still using the 25.5 per cent of first class assigned stoves by the Commission and a 400-mile haul: When 50 miles of the haul is in Official and 350 is in Southern, the rate is 41 cents, or 108 per cent of the rate of 38 cents for a 400-haul within Official. With 100 miles of the haul in Official and 300 in Southern, the rate is 40 cents, which is 105 per cent of the Official rate of 38 cents for the haul of 400 miles in the North. Parity is simply not obtainable for interterritorial rates by adjustment in the classification rating.[30]

The Commission later,[31] in order to gain a level of rates on stoves into Official Territory from the South equal to the Official level, prescribed the Official rate scale and the Official classification rating to apply on the north-bound movement. The result is uniformity on rates from the South to North with those within the North regardless of the portion of the distance traversed in each territory.

In view of the unsuitability of the present method, the Commission should adopt a system of freight classification and class rates better adapted to move traffic between the rate territories.

[30] Interterritorial class rates between Southern and Official Territories have a general basis in the combination of two distance scales: The Southern scale for the distance south of the territorial border; and one of four differential scales for the distance north of the border, the applicable scale being determined in accordance with the distance traversed south of the border. Even with a uniform percentage of first class, uniformity in rates is a mathematical impossibility under this plan.

[31] 237 ICC 515 (1940).

### *VI. ICC Investigations Announced*

Taking cognizance of changing conditions and noting that competition between transportation agencies has brought about numerous departures from traditional classification and rate-making principles,[32] the ICC announced in July 1939, a comprehensive investigation into freight classification to determine whether the establishment of freight classification on a national basis is lawful and practicable.[33] This action is in direct contrast to the Commission's recommendations of fifty years ago that the problem of uniform classification should be dealt with by statute.

With surprising consistency the Commission has combined the investigation with a similar one into class rates,[34] announced because there has been widespread expression of opinion that existing class rates are outmoded and obsolete. Class rates in territories of the United States east of the Rocky Mountains, which excludes only Mountain-Pacific, are subject to the proceeding. Mountain-Pacific Territory apparently was not included because the investigation embodying class rates east of the Rockies is in itself a stupendous task—about which some Commission members have not shown much enthusiasm. Only one hearing has been held. On several occasions, however, the Commission has voted to deny petitions asking discontinuance or indefinite postponement of the proceedings.

Will these investigations be completed despite the war? If so, will the result be uniform freight classification and a simplified class-rate structure? The answers will be indeed interesting.

[32] *Fifty-Third Annual Report of the Interstate Commerce Commission*, 1940, p. 29.

[33] ICC Docket 28310, *Consolidated Freight Classification.*

[34] ICC Docket 28300 *Class Rate Investigation*, 1939.

# A Farm-City Plan for Erosion Control

*By* R. H. MUSSER *

UNIQUE in the history of land economics is the plan of soil conservation worked out by farmers in the Upper Sangamon Valley of east-central Illinois in cooperation with the City of Decatur. This plan has as its goal stabilizing a community by stabilizing its soil resources.

Now with the nation at war those soil resources are particularly vital. The Sangamon River watershed is noted as one of the main areas for production of soybeans,—one of the "must" crops in the country's crop plans. Three large processing plants at Decatur convert the farmers' soybean crops to oil, badly needed in paints for ships and planes, and to feed for livestock. The community with three ordnance plants is contributing heavily to munitions for war, which calls for increased food supplies locally as well as for fighting men.

The watershed of the Upper Sangamon Valley comprises 580,000 acres of some of the most fertile farm land in the world. The assessed land value is $80,000,000. Within that watershed are 3,270 farmers,—progressive landowners and operators who have helped make the Corn Belt the nation's granary. Yet they have a land problem that is fast getting beyond their control.

The problem, briefly, is soil erosion, which has created double damage. Farmers have been losing thousands of tons of fertile topsoil each year in this wasteful process—brought about by misuse of the land. The best measure of the amount actually lost is the annual deposit of 500,000 tons of soil in Lake Decatur. Estimates indicate that an equal amount lodges along the way. Thus, about a million tons of soil, nearly 2 tons per acre, is eroded from farm land in the watershed annually.

That is the most serious loss—decline in the productive capacity of the soil with the resultant lowering of farmers' purchasing power and economic contribution to the community. On the other end, what about the silting problem in Lake Decatur?

The dam that holds Lake Decatur was built by the City of Decatur in 1922 at a cost of $2,013,000. It was built to provide an ample and permanent water supply for the city and for rapidly growing industries located there. The newly created lake measured 10 miles long, covered 2,800 acres, and had a storage capacity of 19,738 acre-feet (over 6 billion gallons).

Silt measurements made by the Soil Conservation Service in 1936 showed that the storage capacity of the lake had been reduced to 16,930 acre-feet, a decrease of 2,808 acre-feet, or about 14 per cent, in 14 years. Presuming that silting has continued at the same rate since 1936 (and indications are that it has been accelerated), the present capacity is 20 per cent less than it was originally and in 30 more years will be cut in half.

To dramatize the silt figures, a 9-inch dredge would have to be kept going constantly for 9 months of each year to remove the 500,000 tons of soil deposited there annually. Or, an 81-mile freight train—10,727 forty-ton cars—would be required to move the annual deposit.

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The lake is a highly important resource to Decatur as well as to the surrounding farming territory. The draft for private, civic, and commercial uses is 15,000,000 gallons a day, half of which is for a soybean-processing plant—the largest in the world. Many other industrial plants also take water from the lake reservoir.

It is coincident that the soybean industry which prompted formation of the lake and uses it most, has unwittingly helped to promote its silting problem. For many farmers who have helped produce the enormous increases in acreages of this crop have been letting their soil slip away from them. Up-and-down-hill, straight-row cultivation has been the prime factor. Unbalanced rotations and failure to provide proper cover between growing seasons have contributed, too. Soil conservation measures properly applied can remedy this situation.

### *Watershed Objectives*

It seemed that this two-front assault might be checked by a single-front, counter-offensive control of erosion on farm land. That was the decision of farmers and city leaders who got together to discuss their mutual conservation problems. That is the first objective of the farm-city organization which has been established to work out a plan and to put that plan into effect.

The organization is known as the Upper Sangamon Valley Association. As it was tentatively established it consisted of one farmer and the county farm adviser (known as county agent in most other states) from each of the six counties that lie wholly or partly in the watershed.

The permanent organization will consist of one representative from the board of directors of each soil conservation district organized in the watershed. Three districts already have been established by landowners. They comprise parts of McLean, Ford, and Piatt Counties. Farm advisers in the six counties will take part as ex-officio members of the Association.

Among the ten somewhat overlapping objectives of the Association these three are perhaps most significant:

1. To promote the general welfare and security of families in the Upper Sangamon Valley.
2. To promote an all-out effort to get conservation on the land by interesting all rural and urban people in taking cooperative action for conservation of soil.
3. To sponsor the organization of a soil conservation district in each of the six counties.

The other objectives refer generally to coordinating the educational and work programs and to obtaining assistance from other agencies.

Executive office of the Upper Sangamon Valley Association is another organization known as the Upper Sangamon Valley Conservation Service. The Conservation Service, sponsored by the City of Decatur, will act as a clearing house of information for the Association. The staff of the Service includes two conservationists employed directly by the city. These men with actual farm background in central Illinois have had several years of experience in applying erosion control practices as conservationists with the U. S. Soil Conservation Service.

Civic leaders of Decatur generally, and the City Council and Chamber of Commerce specifically, have taken a long-term viewpoint of the land-use problems that may seriously affect the community. The program of the Conservation Service outlines this idea in its second objective, "To foster rural-urban cooperation in an attack upon soil wastage. Since

the loss of soil results in lower soil productivity and purchasing power, lowered land values, reservoir and stream silting, and decreased standards of living, all of which affect both farm and city people, it is important that the attack be united."

### *Operations at District Level*

In taking this history-making step, farmers of the watershed and the City of Decatur recognize that the wise use of farm land is a necessity if the watershed is to continue to be a prosperous agricultural community. The method chosen for obtaining wise use of the land is through organization of soil conservation districts to sponsor erosion control work on individual farms.

Soil conservation districts are relatively new in the land economy scheme; the first one was established in 1937. The idea has grown rapidly, however, so that now more than one-third of the nation's farms are within the 755 locally-organized legal districts already established in the 42 states that have enacted district laws.

In Illinois, more than 5½ million acres are included in the 25 districts voted by landowners. Three of these are the districts in Ford, McLean, and Piatt Counties. The state law gives farmers the authority to organize a district and to elect their own board of directors, which is the sole governing body.

The state law also grants authority for the districts to obtain assistance of municipalities (the City of Decatur, for example) in accomplishing their objectives. This authority is in the statement in the Illinois law which reads, "The directors may invite any municipal corporation or county located near the territory comprised within the district to designate a representative to advise and consult with the directors of the district on all questions of program and policy which may affect the property, roads, water supply, or other interests of such municipal corporation or county."

The soil conservation district, then, appears to be the logical organization in which both farm and city can be represented for the economic betterment of both. That is the purpose of the Upper Sangamon Valley Association.

### *Origin of Erosion Control Program*

Forerunner of the soil conservation district was the erosion control demonstration project. One of the first of these projects was established in McLean County, Ill., in 1933 by the federal government and the University of Illinois cooperating. Located as it is at the head of the Sangamon River watershed, it is probably one of the most important influences that led to the farm-city erosion control plan at Decatur.

The project was established in McLean County, which is widely known as one of the most progressive counties of the nation, to determine the effects of erosion on gently sloping Corn Belt land and to demonstrate the most effective methods of controlling soil washing. A detailed survey revealed that much of the area had lost one-half or more of its fertile topsoil. Actually many farms in this prosperous community were already in serious economic decline from the effects of erosion.

Five years of intensive application of soil conservation practices convinced farmers and agricultural leaders that soil erosion could be controlled. They found that simple practices such as improved crop rotations, contour farming, and pasture improvement greatly lessened soil movement by run-off water.

These and other practices were recommended to farmers in other parts of the state and nation through other demonstration projects, CCC camp areas, and extension demonstration farms. The U. S. Soil Conservation Service was co-operating with nearly 100,000 farmers over the country in complete erosion control programs. But still, progress was too slow to catch up with the devastating waste by erosion, which had gained such headway.

That was the reason for the development of the soil conservation district as a vehicle for soil control and better land use. It is the reason, too, that the Upper Sangamon Valley Association chose to forward its program through soil conservation districts. A district is a co-operative enterprise approved by farmers, established by farmers, and operated by farmers. They are the first to benefit, also, but the benefits extend well beyond the boundaries of their own farms or even their own communities.

### *The City's Contribution*

It was the realization of the benefits that could accrue to all people in the watershed that prompted the Decatur City Council to offer its facilities for organizational assistance. It has been providing funds for advancing the program to the extent of about $12,000 a year. All of its efforts have been directed toward acquainting farmers and other leaders with the purposes of the organized attack. The two conservationists employed by the city have been soliciting the support of farm organizations, federal agencies, civic clubs, and the local people generally. With this support, then, the districts will be set to go on a concentrated erosion control program.

The Association does not anticipate immediate results either in community improvement or in silting control. It is planning a program that will require at least 10 years to show appreciable results. In that period the soil conservation districts should have reached a majority of the farms with fairly complete soil conservation measures. The City of Decatur will have purchased some of the rough land along the lake and the river and restored it to natural cover. Much of the other rough land probably will have been taken out of cultivation after farmers have fully recognized the value of such a measure.

### *Farm Planning Assistance*

Soil conservation districts, in themselves, do not have many facilities for carrying on soil conservation work. Their forte is to obtain assistance from other agencies for application on individual farms. Districts are authorized to obtain assistance from federal, state, or local organizations toward accomplishing the district program.

The plan of the Upper Sangamon Valley Association is to obtain technical aid for districts in the watershed through the Soil Conservation Service of the U. S. Department of Agriculture and the University of Illinois. It has been the policy of the Department to furnish available assistance through the Service to a district on the basis of a memorandum of understanding. The three organized districts have requested that assistance.

When the Soil Conservation Service assigns a staff to work in a district, it usually consists of one or two technicians qualified to handle the types of conservation problems peculiar to that area. The technicians are responsible to the district board of directors (locally elected) for the work they do on farms.

Facilities of the districts are available to any farmer within its boundaries. Farmers who wish to cooperate in the dis-

trict program may obtain available help by signing an agreement with the district board outlining the soil-saving practices they will apply and the amount of material and labor they can furnish. The district agrees to furnish technical advice and any other available assistance.

Development of a soil conservation program on a farm has three phases: (1) a detailed conservation survey to determine the amount of topsoil remaining, soil type, and degree of slope; (2) a complete plan of soil conservation practices based on the soil capabilities and the farmer's needs; and (3) application of the practices.

The first phase is a responsibility of the SCS conservation surveyors who obtain the survey information under the direction of the district board. The second, the farm plan, is worked out cooperatively by the farmer and the technician. The third part is up to the farmer primarily. He may be able to obtain from the district some equipment for building terraces or other mechanical measures of erosion control. Technicians also can give him help in laying out contour lines and strip cropping systems.

The goal of the Upper Sangamon Valley Association is to have all of the 3,270 farmers in the watershed following good land-use practices on their farms within 10 years. If they accomplish one-half of that goal, they undoubtedly will consider their efforts highly successful. By 1952 the economic benefits of the program should be evident throughout the watershed of this area.

The City of Decatur should have the answer, too, to its lake siltation problems. It can balance the cost and values of this watershed program against the opposite procedure — dredging at a cost of $1,000,000 or more with no thought toward the farmer's problem upstream nor to the economic standards of the community.

Agricultural leaders have termed the Decatur plan sound. It deserves careful scrutiny. It may be a possible solution to land economic problems in many communities.

# State Rural Land Use Legislation In 1941[1]

*By* ARTHUR B. JEBENS*

MORE than 60,000 bills were introduced in the 43 state legislatures meeting during 1941[2]; of these, approximately 30 per cent were enacted into law, ranging from 111 in Utah to 1426 in Florida. In addition, 5,000 resolutions were considered. Legislation directed at problems in zoning, conservation, forestry, public land administration, property taxation, and other subjects of interest to land economists appeared frequently. Since it is impossible to describe all the new laws in detail, this resume is limited to those of more than local interest.

Practically every state which contains extensive areas of rural land was faced with the same general problems, and the legislative treatment adopted usually followed very similar patterns. In most cases, the action did not develop from a systematic and thorough study of the subject, and took the form of stop-gaps to prevent a bad situation from becoming worse rather than attempts to effect basic solutions. A few noteworthy exceptions to this trend can be found in almost every field and from these may come the impetus for more encouraging action in the future.

## *Taxation*

Evidence of progress was most apparent in taxation matters. The fundamentally defective character of our system of real property taxation, in spite of or because of its long use, and the immediate effect that this has had on the financial welfare of many people, forced almost every state legislature to take some kind of action. In many cases the new statutes were passed merely to ease the hardships resulting from the underlying maladjustments or were a continuation of the demoralizing practice of providing for abatement of penalties and interest, instalment payment of delinquent taxes, and extension of redemption periods. These indulgences are too numerous for detailed mention; it is sufficient to note that they were adopted most frequently in the North Central and Great Plains regions but can be found in all parts of the country, and are a continuation of a habit formed during the depression.

A development of real significance is the interest in perfecting tax titles and tax deeds. Defective tax titles have been a major obstacle to sound administration of tax forfeited lands because land held under such a title is valueless for resale purposes and cannot be permanently removed from the tax rolls by the state or county for effective public use.

The most promising legislation is the *in rem* procedure to quiet title to tax forfeited land. This eliminates the need for expensive title searches because the court action is against the land rather than the person, and personal service on all possible interested parties is not necessary. Other changes include the use of

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[1] For a more detailed and complete summary see A. B. Jebens and E. Engelbert, *1941 Summary of State and Federal Legislation Affecting Rural Land Use*. Bulletin L. E. 68, U. S. D. A., Washington, June, 1942.

[2] The Alabama, Kentucky, Louisiana, Mississippi, and Virginia legislatures were not in session during 1941.

statutes of limitations restricting the time in which judicial attacks on tax titles can be brought, and a requirement that a cash deposit be made by persons challenging tax titles to discourage dilatory and groundless court actions.

In North Dakota, parties challenging tax deeds or tax sales must deposit a sum equal to the amount paid at the sale, plus statutory costs, before the action can be brought to trial; and failure to redeem before the period of redemption expires gives the county clear title free from challenge except for jurisdictional defects.[3] Tax title confirmation decrees in Arkansas now operate as a complete bar to further court action contesting the title, except in cases where the taxes have actually been paid.[4] Procedure for the quieting of the title in a single action to all parcels of tax delinquent land held by the county was adopted in California, North Dakota, and South Dakota.[5]

An *in rem* procedure for the foreclosure of drainage tax liens was approved in Florida.[6] Failure to allege ownership correctly or to serve all the defendants properly does not affect the validity of the action. The final decree cannot be attacked for any reason or by any person after the expiration of one year. During this year the only persons who may attack the title are those who did not have a day in court and can prove payment or offer to redeem, or defendants who raise jurisdictional defects and offer full payment. Florida also codified its real property, personal property and intangible property tax laws.[7]

Federal payments or subsidies to counteract the alleged unfair burdens on state and local governments resulting from federal purchases and ownership of land were requested by Idaho, Minnesota, Montana, Oregon, Washington and Wyoming.[8] Legislation authorizing counties and other governmental subdivisions to accept federal payments in lieu of taxes for services rendered for the benefit of resettlement and rehabilitation projects was adopted in six states.[9]

Another noteworthy trend in the field of taxation is the disposition of legislatures to accord tax exemptions beneficial to agricultural, cooperative and forestry interests. It is difficult to determine whether this is done to correct the unfairness in the distribution of the tax burden or results from political pressure by special interest groups.

Motor vehicle or motor fuel tax exemptions or reductions to farmers were approved in Delaware, Florida, Indiana, Nebraska, and New Hampshire.[10] Preferential treatment was written into the law for the taxation or assessment of farm machinery and farm animals in Minnesota, of farm machinery in North Dakota, of farm products in North Carolina, and of agricultural produce in Iowa.[11] Rural electric cooperatives were completely exempted from taxation in Georgia, Iowa, North Carolina, and South Carolina, were partially exempted in Ohio and Utah, were exempted from special assessments in Arkansas, and were subjected to a gross receipts tax in lieu

[3] North Dakota, Ch. 286.
[4] Arkansas, Act 423.
[5] California, Ch. 293 and 886; North Dakota, Ch. 135; South Dakota, Ch. 43 and Ch. 161.
[6] Florida, Ch. 21003.
[7] Florida, Ch. 20722, 20723, and 20724.
[8] Idaho, Ch. 145; Minnesota, Res. 6; Montana, H. J. M. 6 and 12; Oregon, S. J. M. 4 and Ch. 403; Washington, Ch. 199; Wisconsin, J. R. 27; Wyoming, H. J. M. 4.
[9] Kansas, Ch. 202; Michigan, Act 318; Minnesota, Ch. 480; Missouri, S. B. 54; Montana, Ch. 139; Texas, H. B. 78.
[10] Delaware, Ch. 11, Florida, Ch. 20911; Indiana, Ch. 220; Nebraska, Ch. 134; New Hampshire, Ch. 216.
[11] Iowa, Ch. 251; Minnesota, Ch. 436; North Carolina, Ch. 221; North Dakota, Ch. 275.

of all other taxes in North Dakota and South Dakota.[12]

The taxation of forest land has also been revised in several states. The usual *ad valorem* system of taxation makes no allowance for the circumstance that forest land, especially when it is second growth or has been restocked, does not produce a regular annual income. Payment of annual taxes has presumably forced many owners to liquidate their timber and then abandon the property. To meet this situation, the legislatures of several states have approved more scientific forest taxation policies.

Massachusetts provided that all forest land, not used for grazing or other purposes incompatible with forest production and having a value of less than $25 an acre, shall be listed by the assessor as classified forest land.[13] This is then exempt from the normal *ad valorem* tax, but is subject to a products tax and a land tax. The products tax varies from one to six per cent of the stumpage value of all timber cut therefrom, depending upon the length of time the land has been so classified. The land tax is at the regular *ad valorem* tax rate but the value of the land is adjusted. Each year of classification the valuation decreases ten per cent of full value but in no case shall the adjusted valuation be less than $5.00 an acre or full value, whichever is less.

In Washington an alternative system of deferred taxation of forest land has been approved.[14] The land, excluding the forest crop, is assessed at 50 per cent of full value. The forest crop is deemed to be personal property and is likewise valued at 50 per cent of full value, but a percentage of the levy, increasing seven and one-half per cent each year for ten years, is deferred until at the end of that period 75 per cent of the levy is deferred and only 25 per cent is paid. When the forest crop is harvested, the deferred taxes must be paid. A constitutional amendment was adopted in New Hampshire permitting the legislature to adopt special taxes, rates and assessments for growing timber.

### *Governmental Organization*

The optional county government laws passed by the North Dakota legislature to implement a constitutional amendment adopted in 1940 are the outstanding development in the field of governmental organization.[15] Three alternative forms of county government are now available in addition to the traditional form. The "consolidated office form" permits consolidation or abolition of a number of the usual county administrative offices. Adjoining counties, moreover, are permitted to hire jointly a sheriff, state's attorney, and a county superintendent of schools. The "county manager form" follows the well-known model manager plan, except that the sheriff, judge, and superintendent of schools continue to be elected. The third form is an abbreviated county manager government which is similar to the above except that it allows the manager wider discretion in organizing his administrative machinery and weakens the office of sheriff. Any one of these forms can be adopted by a majority vote at a referendum after the issue has been initiated by the county commissioners or 15 per cent of the county electors.

[12] Georgia, Amendment to the Constitution No. 20; Iowa, Ch. 248; North Carolina, Ch. 161; South Carolina, Act 248. Arkansas, Act 414. Ohio, S. B. 215; Utah, Ch. 19; North Dakota, Ch. 282; South Dakota, Ch. 363.

[13] Massachusetts, Ch. 652. See the article by Dr. Rozman in this issue explaining the Massachusetts Forest Tax.

[14] Washington, Ch. 120.

[15] North Dakota, Ch. 129, 130, 131, 132, and 216.

The present North Dakota disorganization law was amended by requiring a 55 per cent majority to carry an election for disorganization and by eliminating the judicial procedure for disorganization. Finally, a governmental reform commission was created to make recommendations to simplify further state and local government structures, consolidate functional activities, and reform internal administration.

Nebraska is also on the verge of reorganizing its county government. The legislature proposed an amendment to the constitution which would permit the legislature to provide alternative forms of county government in which the officials could be either elected or appointed.[16]

The subject of public drainage associations was reviewed in Maryland.[17] Under earlier laws the county commissioners usually constructed and operated drainage systems without forming associations. Now the county commissioners acting alone or in cooperation with other counties can create public drainage associations. The methods of assessing benefits, levying taxes and managing the drainage systems were improved.

Colorado created a Southwestern Conservation District for the conservation of the water of the Don Juan and Delores Rivers, in the interest of irrigation.[18] The district is given very broad powers, may levy a general tax or use special assessments, and may create sub-districts to carry out its program.

A new irrigation district enabling law was approved in Kansas.[19] This alternative procedure for irrigation district formation provides that district boundaries need not be limited to nor follow county lines. The power of final approval for district formation and irrigation plans is given to the chief engineer of the Division of Water Resources rather than the county commissioners. These districts are also given very general powers to carry out their programs subject to approval by the chief engineer.

The creation of water conservancy districts was authorized in Utah for the control and use of unappropriated waters.[20] The district board is given the power to levy a general tax and issue bonds as well as to make special assessments. Sub-districts may be created to carry out the program of the district. Many other states made less significant changes in the organization of their drainage, flood control, irrigation and water storage districts.

Florida is attempting to rationalize school district organization in thinly populated areas.[21] The county superintendent of public instruction is to prepare a master plan for the organization of more adequate school districts when high schools have less than 100 students. The plan must be approved by the state superintendent, the county board, and the voters before it becomes effective. Other procedures for school district consolidation were approved in Arkansas, California, Illinois, Missouri, New Mexico, South Carolina, South Dakota and Washington; but these do not seem to offer much aid in organizing efficient school administrative units.[22]

The creation of rural housing authorities to provide housing for farmers who live in unsafe and unsanitary housing conditions, derive their income primarily from operating or working on a farm,

[16] Nebraska, Ch. 46.
[17] Maryland, Ch. 261.
[18] Colorado, Ch. 231.
[19] Kansas, Ch. 262.
[20] Utah, Ch. 99.
[21] Florida, Ch. 20691.
[22] Arkansas, Act 279; California, Ch. 950; Illinois, S. B. 542; New Mex., Ch. 123; South Carolina, Act 259; South Dakota, Ch. 62; Washington, Ch. 248.

and have a substandard annual net income was authorized in Arkansas, Florida, Montana, New Mexico, North Carolina, Texas, Washington and West Virginia.[23]

State defense councils were created in 25 states. These statutes usually contain provisions to the effect that one member of the council should have special knowledge of agriculture, and that the council may cooperate with federal agencies to investigate and report recommendations with respect to agriculture, food supply, land use, and other activities related to defense.

State governmental reorganization was carried out in Indiana, but it seems to be the outcome of political struggle rather than a desire for administrative reform. Practically all of the provisions became law after being vetoed by the governor and often only entailed a change in the title of the agency and the power of appointment. Four administrative departments, state, audit and control, treasury, and public works and commerce, were created, each to be administered by a three-man board. The division and board of agriculture were abolished and their rights, duties, and powers transferred to the lieutenant governor, who is also to be commissioner of agriculture. The highway commission was also renamed and the state personnel law was re-enacted.[24]

Maryland abolished its Conservation Commission and created a Board of Natural Resources to coordinate the activities of the departments concerned with the conservation of resources.[25] These include tidewater fisheries, forestry, mines, geology, water resources, research.

A state Board of Agriculture was created in Tennessee composed of gubernatorial appointees, three from each of the three grand divisions of the state.[26] The members are to be farmers and are to serve in an advisory capacity to the commissioner of agriculture and the governor. Utah reorganized its Department of Agriculture.[27] The executive board of three is to be appointed by the governor and should include a farm owner, a livestock handler, and an agricultural marketing expert. An advisory council of six taxpayers is also provided for.

Interstate cooperation, through the adoption of interstate compacts permitting regional treatment of problems that could not be met through action by individual states, increased. The Republican River Compact between Nebraska, Kansas, and Colorado providing for the appropriation and use of the waters of the Republican River was approved by the three states.[28] The Delaware Basin Compact to safeguard water resources, prevent pollution, and promote conservation in this area was accepted by Delaware.[29] Other states cooperating in the program are New Jersey, New York, and Pennsylvania. The third development was the addition of West Virginia to the states, Maryland, Virginia, and the District of Columbia, that have approved the Interstate Compact for the Potomac River Basin.[30]

### *Public Lands*

The legislative attitude toward the administration of public lands is slowly turning away from the passive policy of

[23] Arkansas, Act 352; Florida, Ch. 20220; Montana, Ch. 153; New Mexico, Ch. 162; North Carolina, Ch. 78; Texas, H. B. 627; Washington, Ch. 69; West Virginia, Ch. 49.

[24] Indiana, Ch. 13, 27, 29, 56, 126, 139, and 245.

[25] Maryland, Ch. 508.

[26] Tennessee, Ch. 122.

[27] Utah, Ch. 1.

[28] Colorado, Ch. 230; Kansas, Ch. 401; Nebraska, Ch. 92.

[29] Delaware, Ch. 93.

[30] West Virginia, Ch. 81.

holding land until it can be disposed of for private use toward the realization that large areas must be held, perhaps permanently, as part of the public domain to be used for public purposes. The most important changes were made in North Dakota, New Hampshire and Minnesota.

In North Dakota an enabling act empowering counties to appoint a county land agent to manage, lease and collect rentals on all county lands was added. Also county commissioners were authorized to refuse to sell county land at tax sales if the soil fertility would be impaired, if the land is not an efficient farming unit, or if marketability of adjoining tracts owned by the county would be adversely affected. Before the tax sale the commissioners are to classify the land according to whether it should be used for tillage or haying and grazing purposes, and prospective buyers or lessors must file reports to insure that the land policy will be carried out. Other North Dakota laws permit the sale of school land and the exchange of tax deeded land if clear title can be obtained, but no equalization payments may be made.[31]

Towns in New Hampshire are now permitted to purchase isolated real estate not economically suited for farm or home use and to develop such property for recreational, forestry, or other purpose.[32] If the provisions of this statute are taken advantage of, towns may be able to abandon isolated roads and reduce school transportation costs as well as to consolidate their public land holdings.

Minnesota generally amended and consolidated its state land laws.[33] Provisions for land sale, compensation for improvements, and exchange of land with the federal government or private individuals were added. In Arizona leases of public lands for agricultural and grazing purposes may now be written for ten year periods and for other purposes, five years.[34] A constitutional amendment was proposed by the Idaho legislature to permit ten year rather than five year leases of public lands.[35]

Legislative indulgences were accorded purchasers of state or school lands in nine states: South Dakota and Minnesota generally revised their land purchasing statutes; New Mexico, Oklahoma, Texas and Wyoming made provision for refinancing purchase contracts; and Arizona, Connecticut, Montana and Wyoming made adjustments in interest payments.[36]

Statutes facilitating the acquisition of land for public forests were passed in a number of states. In Oregon the laws relating to the transfer of county forest land to the State Forestry Commission, with the approval of the county board, were amended and consolidated.[37] Revenues derived from such land are distributed on the basis of five cents per acre to the fire patrol account, 75 per cent of the balance to the county in which located, and 25 per cent to the state forest development fund.

Florida and Tennessee authorized counties and other governmental units to acquire and manage forest areas under the direction of the state forester.[38]

North Carolina and South Carolina permit the use of the power of condemnation in the acquisition of forest and

[31] North Dakota, Ch. 127, 134, and 252.
[32] New Hampshire, Ch. 66.
[33] Minnesota, Ch. 291, 355, 374, 393, 394, and 397.
[34] Arizona, Ch. 89.
[35] Idaho, S. B. 413.
[36] Arizona, Ch. 20; Connecticut, Ch. 196; Minnesota, Ch. 374; Montana, Ch. 30; New Mexico, Ch. 36; Oklahoma, S. B. 28; South Dakota, Ch. 74; Texas, H. B. 56; Wyoming, Ch. 89, 100, and 121.
[37] Oregon, Ch. 236.
[38] Florida, Ch. 20902; Tennessee, Ch. 105.

park land from private owners.[39] An interesting development in condemnation procedure occurred in Oklahoma.[40] Valuation is to be made by a three-man board, two members chosen from a panel of arbitrators appointed by the governor for each congressional district and a third party appointed by the judge of the district court where the condemnation petition is filed. The judgment of the board is final as to facts supported by the evidence. The proviso, permitting defendants to secure a trial by jury, if requested within ten days after the board's report is filed, may detract from the advantages of this new procedure.

Cooperation between the United States and state or local units of government in facilitating land acquisition was frequently sanctioned. California, Minnesota, North Dakota and South Dakota authorized the exchange of state, school, or county lands.[41] The acquisition, sale, or lease of public land to the United States was approved in Michigan, Nebraska, Oklahoma, South Dakota, Tennessee, Texas, Washington and Wyoming.[42]

### *Planning and Zoning*

Legislation in the field of rural zoning and planning followed the trends of the past few years. Rural zoning enabling acts for counties were adopted in Nevada, South Dakota, and Utah and made available to several more counties in Georgia.[43]

The war effort and increased use of airplanes has given impetus to new uses of zoning powers. In seven states enabling acts were adopted to permit control of the height and location of artificial and natural structures near airports.[44] In Missouri and Nebraska, planning and zoning ordinances for national defense areas were authorized.[45] Under the Nebraska law, cities, counties and villages may be grouped into state zoning districts under the control of the governor's advisory defense committee when federal forts, airports, or military manufacturing or assembly plants are located in the area. A technical staff is to be appointed for the area to recommend regulations, submit a property regulation map and report to the local governing bodies, determine the size of the area, and allocate costs of technical service to the local units. The local governments may then amend or approve these regulations and submit their actions to the technical staff. These counties were given power to adopt zoning and building codes.

Legislation looking forward to the rehabilitation of the iron range region was adopted in Minnesota.[46] Five per cent of the iron ore occupation tax for 1941 and ten per cent thereafter will be used to rehabilitate areas that have suffered unemployment and economic loss as a result of removal of natural resources. A Commission of Iron Resources and Range Rehabilitation, appointed by the governor, is to assist distressed counties and formulate plans for economic redevelopment of the area and vocational rehabilitation of its residents.

[39] North Carolina, Ch. 118; South Carolina, Act 526.

[40] Oklahoma, S. B. 246.

[41] California, Ch. 6; Minnesota, Ch. 393; North Dakota, Ch. 126; South Dakota, Ch. 70.

[42] Michigan, Act 154; Nebraska, Ch. 145; Oklahoma, S. B. 128; South Dakota, Ch. 39; Tennessee, Ch. 2; Texas, S. B. 433 and H. B. 134; Washington, Ch. 66, 110, 142, and 227; Wyoming, Ch. 97.

[43] Georgia, Ch. 236; Nevada, Ch. 110; South Dakota, Ch. 216; Utah, Ch. 23.

[44] Illinois, S. B. 493; Maine, Ch. 142; Massachusetts, Ch. 537; New Mexico, Ch. 171; North Carolina, Ch. 250; Wisconsin, Ch. 195; Wyoming, Ch. 110.

[45] Missouri, C. S. S. B. 172; Nebraska, Ch. 129 and 131.

[46] Minnesota, Ch. 544.

Delaware reorganized the New Castle County Planning Commission and gave it extensive controls over subdivision of plats, and Oklahoma adopted a regional planning commission enabling act.[47] Nebraska and Utah abolished their state planning boards, but West Virginia created such a board to formulate long-time plans for the development of the state and to serve as a consulting agency for local units of government.[48] There were also numerous minor changes in existing legislation in the planning field.

A state-wide soils survey was authorized in Florida.[49] The survey and maps are to be used to orient research in soil potentialities, develop effective soil conservation and land use programs, aid highway and secondary road planning, establish equitable tax assessments, and develop a sound body of helpful agricultural information.

### *Conservation*

The adoption of soil conservation enabling acts in Arizona, Maine, and Ohio increased to 42 the number of states which have followed the pattern set by the Standard Soil Conservation Districts Enabling Act.[50] Eight states amended existing statutes on this subject.[51]

The three new acts omitted provisions for land use regulations and made slight changes in the qualifications of the signers of initiating petitions. The Arizona and Ohio laws require a 65 per cent favorable vote before the district can be created. In Maine property acquired by local districts is exempted from state and local taxation, and state funds available to the districts are to be allocated to the extent of 75 per cent on the basis of acreage and 25 per cent according to the discretion of the state committee. Under the Ohio statute the state committee is integrated with the University; local districts are not permitted to acquire property, sue or be sued; the powers and authority of the Division of Conservation and Natural Resources are not to be infringed upon; and although local districts may seek federal aid, they have no authority to transfer the control or title to any land to the United States or any of its agencies.

In contrast to the three new acts, two states adopted sections on land use regulation. The Texas law empowers the supervisors to formulate land use regulations after a petition by 50 landowners, which become effective after a nine-tenths favorable vote, and in Vermont the approval by merely a majority of landowners suffices for the adoption of land use regulations. A procedure for the consolidation and expansion of existing districts was added to the Colorado and Illinois laws. Other amendments were primarily minor procedural and administrative revisions.

Closely related to these laws is the soil erosion prevention district enabling act passed in Florida.[52] The districts created under this statute have power to tax, borrow money, accept federal grants and to do all things necessary to control or prevent erosion. Their tax levy must not exceed ten mills and is to be applied equally upon all taxable property in the district. Maryland adopted a resolution

[47] Delaware, Ch. 266; Oklahoma, S. B. 152.

[48] Nebraska, Ch. 185; Utah, Ch. 26; West Virginia, Ch. 79.

[49] Florida, Ch. 20454.

[50] Cf., H. A. Hockley and Herman Walker, Jr., "1937 State Legislation for Control of Social Erosion," *Journal of Land and Public Utility Economics*, May, 1938, pp. 210-17. Arizona, Ch. 43; Maine, Ch. 105; Ohio, H. B. 646.

[51] California, Ch. 21; Colorado, Ch. 203; Illinois, H. B. 819; Indiana, Ch. 164; Iowa, Ch. 119; New York, Ch. 515; Texas, H. B. 444; Vermont, Act 202.

[52] Florida, Ch. 20926.

requesting the governor to appoint a state erosion commissioner to make a survey of the feasibility and cost of entering upon a comprehensive program of protecting the shores of Chesapeake Bay and other river bodies of the tidewater from soil erosion.[53]

The Interstate Compact to Conserve Gas and Oil was extended for two years in Arkansas, Illinois, Kansas, New Mexico, New York, Oklahoma, Pennsylvania and Texas.[54] Congress expressed its consent to this extension.[55] An oil and gas conservation code containing specific provisions on oil well spacing, physical waste, and well drilling, casing and plugging was adopted in Illinois.[56] In South Dakota the Oil and Gas Board and in North Dakota the Industrial Commission were authorized to promulgate orders and regulations in similar matters.[57]

Several obstacles to oil and gas production have been attacked this year. A procedure for the development and operation of oil and gas lands when under joint ownership was prescribed in a Michigan statute.[58] California now permits the leasing of mineral, gas and oil producing lands, which are part of a deceased person's estate, for 20 years or even longer if production is still in paying quantities.[59] Certain corporations in Kansas were granted the right to use the power of eminent domain to dispose of oil and gas field brines and mineralized waters.[60]

Strip mining regulation was considered in three states.[61] Pennsylvania and Indiana adopted regulatory statutes, while Illinois created a commission to study the effect, regulation and taxation of strip mining operations. The Indiana law requires strip mining operators to have a permit which is issued only if the land is not classified as forest land for purposes of taxation and if the applicant agrees to plant, according to approved forestry methods, an area equal to that to be stripped and one per cent of that already stripped. The Pennsylvania law gives the Department of Mines exclusive jurisdiction over strip mining operators.

Regulation of the commercial cutting of timber on private land, rehabilitation of forest areas and protection against forest fires are the significant features of forest conservation legislation. The Oregon statute regulating the commercial cutting of timber is particularly important.[62] All persons cutting timber are required to leave an adequate stand of reserve trees or provide satisfactory restocking to insure continuous forest growth. To carry out this program, Oregon is divided into two forest areas, one east and one west of the Cascades, for each of which minimum provisions for leaving seed trees are prescribed. In addition to these standards, alternative plans for cutting and restocking may be followed if approved by the state forester. The enforcement of the law is made the duty of the state forester, who is to make annual surveys to determine whether the regulations have been observed. Where violations have occurred, the forester shall request the operator to correct the situation, and if he refuses, the forester is to do the work and assess the costs, not to exceed $100 for each 40 acres, against the operator.

[53] Maryland, J. R. 4.

[54] Arkansas, Act 86; Illinois, H. B. 131; Kansas, Ch. 279; New Mexico, Ch. 14; New York, Ch. 501; Oklahoma, S. B. 10; Pennsylvania, Act 175; Texas, H. B. 208.

[55] Public Law 246, H. J. Res. 228.

[56] Illinois, S.B. 694.

[57] North Dakota, Ch. 170; South Dakota, Ch. 177.

[58] Michigan, Act. 178.

[59] California, Ch. 969.

[60] Kansas, Ch. 280.

[61] Illinois, S.B. 710; Indiana, Ch. 68; Pennsylvania, Act 71.

[62] Oregon, Ch. 237.

South Carolina authorized the Commissioner of Forestry, upon request and payment of a service charge by the landowner, to mark and tally trees suitable for cutting under approved forestry practices.[63] Opposition to any federal legislation regulating the cutting of timber on private lands was expressed in a Vermont resolution.[64]

Rehabilitation of burned-over areas was declared to be a matter of public concern in Idaho.[65] State departments controlling burned-over land may request appropriations for reseeding and may cooperate with the federal government in this program. Counties may create burn seeding areas, cooperate with private parties and public officials, and pay up to 50 per cent of the rehabilitation costs for private land.

Other enactments of minor importance include a Florida statute authorizing county commissions to appoint foresters to service landowners with respect to reforestation and utilization of forest products.[66] In Massachusetts the state forester has been authorized to demonstrate forestry practices and encourage rehabilitation of forest lands in cooperation with the federal government, and state and regional advisory committees have been created to cooperate with landowners and agencies interested in forestry practices for the promotion of profitable management of all forest land in the interest of the owner, public, and user of forest products.[67] A forest products research laboratory has been created in Oregon to increase utilization of forest waste products.[68]

The perennial problem of forest fire control was considered in one aspect or another in practically every state having extensive forest areas. In California, fire patrols on private lands were made a state responsibility.[69] A number of states enacted or amended legislation attempting to reduce the fire hazard resulting from logging operations, and authorized the creation of fire prevention and control districts.

### *Other Laws*

Subjects closely related to land use received much attention during the past year. Statutes regulating the marketing of agricultural products and prescribing standards for dairy products, eggs, fruits, and vegetables were amended or adopted in almost every state. Two of these warrant special mention. In Connecticut, dairy farms and plants located outside the boundaries of the state but within the natural milkshed are subject to the same regulations, inspections, and approval as those located within the state.[70] The other is the Montana statute attempting to stabilize the market for poultry, fruits, and vegetables by fixing price and margin schedules for certain trade areas.[71]

Other marketing legislation included acts enabling state agencies or local units of government in 22 states to cooperate with the federal government in the distribution of surplus commodities through cotton or food stamp plans.

The possibility that the good-neighbor policy might lead to revision in our livestock embargo law, sugar quotas, and dairy product tariffs raised considerable objection from midwestern states. Increased interest in research in industrial uses for agricultural products, publicity

[63] South Carolina, Act 179.
[64] Vermont, Act 304.
[65] Idaho, Ch. 71.
[66] Florida, Ch. 20899.
[67] Massachusetts, Ch. 455 and 544.
[68] Oregon, Ch. 468.
[69] California, Ch. 1227.
[70] Connecticut, Ch. 319.
[71] Montana, Ch. 154.

and advertising for agricultural products, pest and weed control and seed law revisions was also in evidence.

The rice promotion program adopted in Arkansas, Louisiana, and Texas, which was financed by a tax of two cents for each 100 pounds of rice milled, received a set-back when the Arkansas Supreme Court held the levy was not made for a public purpose.[72]

*Summary and Conclusion*

The importance of state legislation to national land use programs has been given increasing emphasis in recent years. The best evidence of this is the special report, "State Legislation for Better Land Use," prepared by an interbureau committee of the United States Department of Agriculture early in 1941. A comparison of the enactments summarized in this article with the state legislation suggested in that report as essential to a well-rounded program promoting wise land use might indicate how far we have gone.

Some progress in the administration of rural tax delinquent lands is apparent. Although the basic inequalities and defects of real property taxation were not touched, the attempts to improve tax titles, develop a sound policy toward tax forfeited lands and forest land taxation, and the numerous minor improvements are encouraging. This can also be said for continued emphasis on sound policies in public land administration, conservation of our soils, minerals and forests, and planning and zoning legislation.

There were a few isolated instances of attempts to improve rural local government, but the major defects in organization are still being ignored. The same is true of drainage and irrigation district reorganization, and improvement in our water laws. Farm-tenancy law was practically untouched this year although it is probably of primary importance since it is so closely related to farm production and sound conservational farm practices.

The present picture is not very favorable. State action is slow, scattered, and dwarfed by the size of the task that must be done and the number of instances in which nothing has been accomplished. A few states are pointing the way by carefully studying their problems and adopting some promising legislation. Perhaps during the remainder of the war and in the post-war period, when the need for action will be intensified, the states will assume their proper role and do their share in making the necessary adjustments.

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[72] Arkansas, Act 29, Louisiana, Act 112 (1940); Texas, H.B. 136, Stuttgart Rice Mill Co. v. Crandall. (Ark. Sup. Ct., 1942).

# Organization of Occupancy in Critical War Localities

*By* LYLE C. BRYANT * *and* MARC J. FELDSTEIN **

*This is the second of a series of articles dealing with the problem of organizing occupancy of housing facilities. This series represents a part of an undertaking calculated to show how the technique of experimentation can be most profitably employed to uncover workable solutions of administrative problems. The first article of this series appeared in the November 1941 issue of this* JOURNAL *under the title, "Organization of Occupancy as an Approach to Real Estate Management."*

*This article resembles the preceding one in that it is confined to one specific administrative problem in connection with occupancy organization, and undertakes to show, in quite a specific way, how that problem can be dealt with most effectively. The chief difference is that the problem of organization of occupancy is here considered under different conditions and from the standpoint of a different type of administrative group. In the preceding article, which concerned itself with the problem of "urban rehabilitation," the approach was from the standpoint of the real estate manager under peace-time conditions. The general objective was maximization of the income potentialities of investments in established residential areas. The basic conditions assumed were those of a peace-time housing market, having no more than ordinary peace-time restrictions, in which families were free to choose their places of abode within the limits of their incomes, and in which occupants or potential occupants were presumed to act according to their usual patterns of behavior.*

*In the present article the point of view is that of a governmental agency charged with general supervision of the use of the nation's actual and potential housing resources, at a time when the nation is committed to an all-out war effort. The objective is to direct the use of those resources so as to facilitate, to a maximum degree, the prosecution of the war. Here it is assumed that, within the bounds set by liberal interpretation of the statutes, there may be administrative interference, both with the use of residential facilities and with choices of abode. This interference, so long as it is consistent with maximum facilitation of the war effort, is regarded as limited only by considerations of feasibility within the framework of our institutions. During the transition to a peace basis of economy that must follow the termination of the present war, the problem of organization of occupancy will assume a form somewhat different from that considered in either this or the preceding article. In magnitude that problem will compare with the one considered here, though its purposes and basic conditions will be entirely different.*

DEFENSE housing appears to have been like new wine put in the old bottles of "slum clearance" days. In theory, attention was focused on need for shelter. The idea was that those obliged to move to war localities should be enabled to live there according to "American" standards. The housing needs of low income workers tended to be the particular object of concern. In general, pressure groups worked in their usual ways to shape housing programs as their interests dictated.

* Indiana University.
** Federal Security Agency.

The designated defense housing authorities developed a formula that called for adding to the supply of family type residential facilities in war localities to the extent that families might be expected to move there in connection with employment in war industries, allowances being made for the quantity and quality of existing vacancies. The immediate result was an impressive movement "toward more housing," which, for a time, pleased almost everyone.

Unfortunately, there were a number of rather important factors that the official formula failed to take into account. For example, it overlooked the fact that during a war period demands from other sources, together with difficulties on the supply side, set limits to the amount of materials available for residential construction. It failed also to consider the effects of increased housing demands resulting from the general rise of incomes that accompanies fuller employment; of changes in consumer expenditure patterns induced by rationing, priorities, and exhaustion of dealers' stocks of consumable goods; and of movements of workers to collateral industries in centers of war activity.

The boom in residential construction stimulated by the defense housing authorities meant rapid depletion of inventories of building materials. This, in time, began to concern those responsible for the materials requirements of military and naval establishments and the war industries.

Meanwhile various forces working on the demand side effected such a rapid depletion of the supply of family-type housing vacancies that housing difficulties ultimately began to interfere in a serious way with recruitment of workers in essential occupations in many centers of war industry.

Many of these difficulties came to a head rather soon after Pearl Harbor. Meanwhile, there had developed tremendous pressure for an all-out attitude toward the war. The housing authorities began to have it dinned into their ears that in the future they would have to be more discriminating in their efforts, that they would have to restrict themselves to doing what they could do best to further the war and let other things go. Those who took the all-out position sought to impress on the housing people that not every good thing is worth what it costs in terms of other things required for war.

The interplay of these various forces has not yet [1] brought a complete unification of objectives with respect to war housing. In particular, there is still some bias in official circles "toward more housing." On the other hand, much progress toward tightening and pointing up official thinking about war housing has been made. Certainly the trend is in the direction of subordinating other ends to necessary war ends and of trying to accomplish those necessary war ends as economically as possible.

### *The Role of Housing in Manpower Mobilization*

It seems reasonable to assume that the trend described above will continue: that the efforts of the housing authorities will be increasingly directed toward contributing to the prosecution of the war with minimum demands for critical material and labor resources. In this section, therefore, we shall discuss more specifically what that means. We shall try, in other words, to define the role of war housing in an all-out war effort.

[1] This manuscript was released for publication during the last week of July, 1942.

For housing, as for other things, an all-out war effort means doing and doing without. It means doing without all but an absolutely indispensable minimum of current construction. It means calling a halt to the use of available critical resources to provide for alleged needs for shelter, whether of the underprivileged, or of prospective war workers, or of any other class, except on clear evidence that the war effort would be seriously impeded if those needs were not provided for in the way proposed. It means avoiding any warping of public housing activities by pressures from special interest groups, whether those be labor groups, or real estate groups, or professional and business groups concerned with building and its financing. It means avoiding all deflections by special interest groups, even when their proposals are skillfully guised as efforts either to promote the general welfare or to help win the war.

Positively, an all-out war effort calls for making such housing as is available, supplemented by such new construction as can properly be spared from other parts of the war effort, go as far as possible to facilitate the prosecution of the war. An all-out war effort requires effective organization of occupancy to this end.

Organization of occupancy, to meet the requirements of war, is most appropriately thought of as one aspect of the job of mobilizing manpower for war industries. War manpower mobilization involves two different kinds of work. On the one hand, it calls for shifting people to war jobs; on the other, for making them productive in those jobs. The former kind of work, being the least standardized, is the one that makes the greatest demands on the ingenuity of the government officials responsible, including those particularly concerned with housing. We shall, therefore, make this the focal point for our discussion of the relation of housing and manpower mobilization.

If no more than feeble attempts are made to manage the movement of labor to war localities, all sorts of unnecessary difficulties may result. For instance, it is likely that a great many workers not really qualified to work in the war industries there, will flock to war localities and bring their families with them, in the vague hope of bettering themselves. In a booming locality such workers are likely to be able to get some kind of a job with which to support their families. Their jobs could just as well be filled by women, boys, and older persons who would have to be in the locality anyway, but who cannot work in the war industries. Yet, if nothing is done to prevent it, these in-migrants will unnecessarily continue to take up living facilities.

Again, hiring policies that either pass over qualified local labor, or that pay no attention to the family status of the more abundant types of labor that have to be imported, serve to subject the housing facilities of the locality to unnecessary strains.

Strained housing facilities may result in some really serious labor recruitment and retention problems. These problems occur mainly in connection with professional, technical, managerial, and skilled workers who are vitally important for the organization of war industries and who are hard either to get or to keep since there are many available jobs for every such worker. Such workers, if they want to work where they can have their families with them, are exceedingly difficult to attract where there is little prospect of obtaining family-type housing facilities.

One obvious way to relieve such strains and provide needed family-type housing facilities is to build. But the

building of housing facilities means using critical materials and labor that are required in other parts of the war effort.

If a policy of virtual *laissez-faire* is followed, both with respect to selection of workers to bring into war localities and with respect to the use of housing in those localities, and if this is combined with an official endeavor to provide every in-migrant war worker who wants one with a family-type dwelling unit, the drain on critical materials can become quite enormous.

If such a drain on critical materials is to be averted without causing labor recruitment and retention difficulties and without causing unnecessary hardship for individual workers and their families, it is necessary to develop both a rational program for managing labor migration and a rational program for controlling occupancy in such housing as is available.

The essential elements of the necessary program can be set down briefly. For all types of jobs, residents of the vicinity should be used just as far as that is practicable. Even when workers locally available are inferior to potential importees, preference should be given to local residents up to the point where the extra social costs resulting from training and using the inferior local workers more than offset the social costs entailed by importation. Considerations of economy dictate further that, where importation is necessary, workers should be selected for importation with a view to minimizing the social costs of relocation. This means that, in selecting workers to bring into localities where housing is relatively scarce, there should be discrimination (insofar as consistent with maximum facilitation of the war effort) first in favor of persons without dependents, and then in favor of those with relatively few dependents whom they will want to bring with them.

The housing program obviously provides one of the most appropriate devices for implementing such a policy of selective migration. For types of work where the ratio of qualified workers to available jobs is relatively high (which includes virtually all types of work commonly classed as semi-skilled or unskilled), the best arrangement would be to rely primarily on wage inducements to effect the desired movements. This implies that these classes of workers should be offered high wages, but that (unless it is clear that enough of the desired types of workers cannot be obtained under such conditions) they should be given to understand that they can expect no more than a good room so far as living quarters in the war locality are concerned. Such an arrangement would tend to attract to the more crowded war localities single persons and others willing to live away from their families during the work week. It would tend to encourage those particularly desirous of living with their families seven days per week to devote themselves to such essential work as has to be done in their home communities, or in other localities with ample housing facilities and community accommodations. It would discourage migration to war localities of those whose services are not definitely required in the war industries. This kind of policy would mean that the labor force for some war localities would have to be drawn from a somewhat wider area than otherwise, but it would tend to keep to a minimum the amount of new housing and other community facilities to be provided in war localities.

In brief, the responsibilities of the war housing officials are to organize occupancy in the housing facilities of critical war localities so that professional, technical, managerial, and highly skilled workers, together with any other classes

essential to the war industries who would prove difficult or impossible to recruit and retain otherwise, are provided with family-type housing facilities and so that other types of workers are provided at least with rooms in which to live.

This means assuring that workers of the scarcer types have first choice of such family-type housing facilities as are available or become available in the order of their importance to the local war industries. It implies that if enough family-type facilities cannot be made available for workers of the classes that will have to be imported with their families, new family-type facilities will have to be constructed. It implies that the less scarce types of workers will be provided with family-type residential facilities only to the extent that the existing supplies permit, after the needs of the scarcer types of workers are cared for. However, it implies that every essential worker will be insured of a good room in which to live. The exact classes of workers for whom family-type facilities may have to be provided cannot be determined in a general way for all localities. The answer will be different for different localities and will have to be determined in light of local labor market conditions.

### *Inter-Agency Coordination*

The preceding section undertook to determine what the objectives in organizing occupancy in critical war localities should be. In this section we shall inquire into what the job involves. Organization of occupancy in critical war localities along the lines considered above calls for action on three different fronts: (1) The first and most important job is to see that the scarcer types of workers who must be imported, and who, in order to be recruited and retained must have family-type facilities, are given preference in filling any such private or public quarters as are available; (2) When the housing facilities accessible to the war industries are insufficient to accommodate any class of workers necessary there, then the situation calls for manipulating local transportation facilities to increase the amount of housing facilities accessible; (3) If it is impossible by any less costly means either to make available sufficient family-type accommodations for scarcer types of workers or to make rooms available for other types of war workers, construction of new living quarters is obviously necessary.

What is suggested here does not represent a proposal for undertaking new activities. It is rather a proposal that activities already going on be coordinated in such a way as to lead to results of the kind that this paper has in mind. Administrative machinery is already in existence for doing practically all of the different sorts of work contemplated, and most of that machinery is working. The difficulty is that the different parts do not work together so as to accomplish the job as a whole.

The National Housing Agency itself has authority to build and manage public housing, to grant priorities for private housing construction and, in its grant of priorities, to impose conditions as to occupancy. Moreover, it has machinery for registering applications, vacancies, and leasings in critical war localities although it does not have authority to require registration. Still, practically all the legal authority that is necessary in this matter has already been vested in the Office of Price Administration in connection with its job of regulating rents. It would be a matter of detail for the latter agency to design its scheme for reporting of leasings

so as to show how the tenant had been classified from the standpoint of the importance for labor recruitment and retention purposes of providing him with family-type housing. Such an arrangement would give the National Housing Agency a good method not only for knowing what vacancies were developing, but also for keeping account of how vacancies were currently being disposed of. With this kind of machinery at hand, it would be readily possible to bring various sorts of pressure to bear that housing facilities become available to the right parties.

Approximately the same situation prevails in connection with a number of other things that need to be done to organize housing occupancy in war localities effectively. Thus although the National Housing Agency itself lacks authority to build utilities and to provide health and recreation facilities, the Federal Works Agency and the Federal Security Agency have the requisite authority and have machinery for doing that work. Likewise, the National Housing Agency has no authority to reorganize local transportation facilities but that job has been definitely assigned to the Office of Defense Transportation, which agency does have some machinery for doing what needs to be done.

When one considers almost any particular aspect of the work of organizing occupancy in critical war localities, it appears that provision has already been made for doing it. It is evident that, for the most part, the conception is there, the administrative machinery is there, and the statutory authority is there. But it is equally evident that the various elements do not work together to get done what is supposed to be done. This is brought out by the fact that construction has been overemphasized while work of organizing local transportation and, more particularly, that of manipulating rationally the accesses to occupancy in available housing has been sadly neglected. The greatest need at present therefore, is not for new legal authority or new administrative machinery for doing things. The need is rather for putting the available machinery in working order and seeing to it that the necessary work gets done.

### *Alternative Approaches*

Coordination is one of the many things it is easier to talk about than to achieve, easier to attempt than to accomplish. Before we inquire how to get the coordination that is required in this case, we may well consider some of the by-ways to avoid.

People in government service have had enough experience to know that it is far easier to appoint coordinators or coordinating committees, or to form coordinating agencies, than it is to get real coordination in government. Even the creation of super-agencies has, on the whole, been rather disappointing. While the creation of a super-agency may do something to effect coordination, the chief effect usually is to change the form in which the problem of coordination presents itself. The point to be emphasized is this: The prospects of real coordination of activities, at the significant operating level, are not good if we allow ourselves to think primarily in terms of external organizational forms.

Another well-beaten path that is really not very promising is that which undertakes to achieve coordination by working from the top down—by elaborating a pattern of working relations at the national level before facing up squarely with problems of coordination at the local level. Experience indicates that efforts along such lines, more often than not, never do get down to the operating

level where coordination really matters most. Efforts at coordination of federal agencies can be deemed successful only insofar as they bear fruit at the level of operations—which, so far as housing is concerned, is the locality level.

From the fact that fairly good working relations are achieved by federal agencies at the national level, it does not follow that there will be satisfactory working relations at the locality level. Captain Richard Reiss, an English housing authority who not long ago surveyed housing activities in a number of different American war localities, commented particularly on the way the different federal agencies concerned seemed to go their own ways at the local level. He was surprised to see how, at that level, different parts of what would seem to be the same job were scattered among half a dozen different officials widely separated geographically, and even more widely separated so far as their actions were concerned, with no one of them having specific responsibility for getting the significant jobs done.[2] Yet in most cases the Washington offices to which those particular officials were responsible had developed reasonably satisfactory working relationships.

There is one more point that needs to be mentioned. If we wish to achieve such coordination of federal agencies as is required for effective organization of occupancy at the local operating level, it will be well to avoid the roundabout path which starts with elaborate discussions in which the only test of the workability of ideas is their plausibility to people who are largely out of touch with the realities of local situations.

As an alternative, we recommend the method of experimentation. Instead of trying to build plans on the basis of discussion, we suggest building them on the basis of an experiment designed so as to give a fairly precise idea as to how local situations can be handled effectively.

The method of experimentation, as we think of it, means designing patterns of inter-related work of the different agencies, testing these patterns by applying them in concrete situations, and judging them from the standpoint of getting the desired results most effectively. The aim is to develop some pattern of working organization which, when proved successful in an experimental locality, can be made the basis for developing similar patterns in other localities and eventually for the design of national procedures covering this field.

### *Specific Suggestions for Designing and Conducting the Kind of Experiment Required*

If such a locality experiment is to provide a solid basis on which to build national procedures for organizing occupancy in critical war localities, it is important that it be planned carefully and executed skillfully.

*Design of the Experiment.* The following paragraphs set forth some of the more important matters that need to be taken into consideration in arranging for such an experiment as we have in mind.

(1) Speed is of the greatest importance in an experiment of this kind. The experiment cannot be pursued in a leisurely academic fashion. It must be brought to fruition quickly. It is a matter of weeks, not months. For example, in order to keep account of housing vacancies that develop, of vacancies filled, and of the occupational status of those to whom available housing is let, the

[2] To be sure, the British arrangement leaves much to be desired from the standpoint of coordination. Cf., article by Rosalind Tough and Ruth G. Weintraub, "Housing British War Workers", *National Municipal Review*, July, 1942.

most workable scheme seems to be to develop a cooperative arrangement with the Office of Price Administration rent control section. This will require only some minor adjustments in what the Office of Price Administration is already planning to do. It is mostly a matter of speeding up the reporting of vacancies and leasings and of including on the form whereon leasings are reported, a space to show the application—identification number and the housing preference number of the party to whom the house is leased. Arrangements along these lines will provide the basis for a complete file of current vacancies at the same time that they supply the necessary basis for rent control policing. Likewise, they will constitute the basic statistical accounting records.

(2) In order to speed up the experiment and at the same time to make as wide as possible the range within which experimentation may be carried, the experiment should be under the direction of persons in intimate contact with, and who have the fullest confidence of the heads of the federal agencies concerned.

(3) The best procedure would be to put the experiment in charge of an executive committee comprised of representatives of the major federal agencies involved. The War Manpower Commission, the War Production Board, the Office of Defense Transportation, the Office of Price Administration, the War (or the Navy) Department, and the Federal Works Agency as well as the National Housing Agency should have representation. In addition, representation might be given to any of a number of other agencies, depending on the nature of their interests in the locality selected for the experiment. Each member of the executive committee should be a working administrator capable of directing effectively, along lines determined upon by the committee, the activities over which his agency has jurisdiction. As was implied above, one or another of the members of the executive committee should be in touch with the top administrators of every federal agency directly concerned in the experiment so as to permit quick action from any agency whenever necessary. One of the members of the committee should be a person of high administrative ability. He should be designated the executive chairman. The executive chairman should be recognized as superior in authority to other members of the committee and on him should rest the final responsibility for getting the job done.

(4) It is important that every effort be made to put as many of the conditions as possible under the control of those in charge of the experiment. The major ways by which this can be accomplished are by: (a) putting the experiment in charge of an exceptionally able staff; (b) getting the different federal agencies concerned to agree to give the committee a free hand in conducting the experiment. (That is, the committee should be empowered to make decisions on any matters coming within the jurisdiction of any of the cooperating federal agencies and to make those decisions stand by virtue of backing from the Washington offices of the agencies which have jurisdiction. This backing should be immediately forthcoming at the request of the committee without extended preliminary discussion); and (c) selecting as the locale of the experiment a community that has already experienced some of the realities of war—perhaps a seaport town like Norfolk, Virginia, that has seen the victims of a submarine attack. (Under such conditions the local people can be expected to be more receptive than otherwise to fairly liberal interpretation of statutory

limitations on the powers of government, and can be expected to cooperate more fully with the committee in charge.)

(5) If the directors of the experiment and the chief members of their staff are persons of some ingenuity, a large number of devices will be discovered whereby the situation in the experimental locality can be controlled. We have already indicated some of the possibilities in connection with the statutory powers of federal agencies. Controls over priorities provide another very important potential control device. Finally, through appropriate community organization, the committee should be able to bring social pressure to bear most effectively in getting local people to do what it considers necessary, particularly if this is a community that has experienced some of the grim realities of war.

(6) It has been emphasized that the experiment should be held to produce for the experimental locality the actual results that are contemplated for all critical war localities. Theoretical objectives are thus subordinated to the objective of actually putting across a coordinated local program. However, through precise observation and interpretation of what happens at every stage of the experiment, in connection with ideas that have to be rejected as well as in connection with ideas that are made to work, it should be possible through experimentation in one or two or three localities to get usable answers to a large portion of the questions that will come up in other war localities.

(7) In addition to the administrators who comprise the executive committee and the operating staffs they will require to handle the ordinary operations of home registration, labor recruitment, rent control policing, and other related activities, there will need to be a professional staff on which the committee can rely for technical assistance in designing and expediting the operation of appropriate administrative and statistical accounting procedures. These technicians should be "idea men," capable of inventing procedures for handling new situations as they come up. Effective application of the experimental technique to problems of administration, requires a technical staff that can generate coordinated ideas and also direct a staff to translate those ideas into practice at the operating level, so as to produce the results envisioned. That is, the technical staff should be able, not only to design procedures, but also to demonstrate those procedures successfully and, whenever necessary, to step in to expedite operations. For purposes of expediting and demonstrating, the technical staff should have at its disposal a group of first-rate clerks to throw in at any point where bottlenecks develop. For the personnel required the committee should be in a position to draw as extensively as necessary on the Washington offices of the federal agencies chiefly concerned in the experiment.

*Conduct of the Experiment.* The aim of experimentation is to discover what will lead to the results desired and what will not. When experimentation is proposed it is implied that it is not at present known just what will work and what will not. However, it is necessary to have some ideas with which to start. In the following paragraphs an attempt is made to map out a few patterns of action which, on the basis of general reasoning, seem to have potentialities for doing what needs to be done.

*First,* by utilizing the rent control powers it is possible to require reporting of all transactions in the housing market (rental or sales). The idea of rent control has already won public acceptance,

and reporting of transactions seems obviously necessary to implement it. To permit a close check-up on the way vacancies are filled, the form on which a given letting is reported should show an application-identification number for the new occupant as well as his housing preference rating. If properly designed, the same forms can serve as the basic operating forms both for homes-finding service and rent-control policing, and as statistical-accounting records.

*Second,* if pressure is to be brought effectively to get the family housing facilities currently becoming available into the hands of the right parties, there should be some arrangement for labeling applicants for housing so that parties with housing to let can tell readily how different applicants compare from the standpoint of the importance to the war effort of providing them with housing. Also, there needs to be an effective system of accounting for the extent to which the currently disposable housing is actually going to the classes for which it is most important for it to go.

*Third,* the local public employment office officials should be in a position to specify what classes of workers it will be most advantageous (from the standpoint of labor recruitment and retention purposes) to give first choice of such family-type housing facilities as become available. These data will constitute the basis for assigning housing preference ratings to applicants. The main problem here is one of arithmetic — to insure that the number of highest housing preference ratings is limited to a workable extent.

*Fourth,* if a maximum of administratively useful knowledge is to be obtained from the experimental work, it is necessary to keep accurate account not only of what the committee has to deal with but of what happens at every stage—in connection with ideas that do not work as well as in connection with those that do. This calls for much more than simple listing, counting, and measuring of clearly defined factors. However, the executive committee will need to be provided with regular statistical progress reports showing the following types of data: (a) *Supply data.* The amount of housing available, with a classification of available units by the class of owner (private, priority-aided, other private); (b) *Demand data.* The amount of unfilled applications for housing, with a classification by the housing preference ratings of the applicants; (c) *Disposition data.* The amount of new lettings in the current period, particularly of family-type dwelling facilities, with a classification by the housing preference ratings of the new applicants. (The latter class of reports is of crucial importance for control purposes. It will certainly need to be broken down, like the reports on available supplies, by class of owner. Special breakdowns by section of the city may be necessary, in the case of housing that has not received priority aid, to permit a more effective focusing of social pressure.) These three are the basic classes of progress reports that should subsequently be provided for in connection with all localities.

*Fifth,* and last, there is no need for publishing the fact, either in the experimental locality or elsewhere, that experimentation is under way. The best results will be obtained if publicity about the experiment is avoided, at least until the experimental phase is past.

### *Conclusion*

The preceding paragraphs have made it clear that the central problem in developing methods for organizing housing occupancy in critical war localities

is one of choosing between a large number of possible alternatives that suggest themselves. The question is whether selection will be primarily by discussion or by experiment. The chief advantage of an experimental approach of the type herein suggested is that it permits the effective application of the result-criterion of choice. If emphasis is placed on the attainment of a specified set of results, a successful experiment will yield at the outset an integrated set of procedures which (whatever else may be their defects) have demonstrated capacity for producing the results expected at the crucial local level.

It would be unfeasible and quite unnecessary to expect the cooperating agencies to bind themselves to model their national procedures according to the pattern developed in the experimental locality. However, if the experiment proves successful, the agencies will, in most cases, tend to adapt their national procedures to the working arrangements developed by the experiment. The procedures of the different agencies could be kept coordinated if informal pressures were brought to bear on them to follow the practice of trying out any appreciable modifications of their procedures in an experimental locality before prescribing them for the country.

(The authors wish to express appreciation for help received from Dean Arthur M. Weimer and Dr. Richard U. Ratcliff, professors of real estate and housing at Indiana University and the University of Michigan respectively, and from Mr. Burton O. Young, Senior Economist of the Office of the Administrator, National Housing Agency. All three have criticized this manuscript and assisted at various stages in the development of the ideas it contains. However, the responsibility for the validity of the interpretations presented and for the workability of the proposals advanced rests solely with the authors.)

## Urban Land Department

# Used Homes In The Low-Cost Housing Market

AN increasing volume of new low-cost home construction during recent years tends to obscure the fact that the largest source of low-cost housing in the United States consists of depreciated existing homes.

It cannot be denied that the best way to improve housing conditions for everybody is to build more homes and better homes and rehouse as rapidly as possible the many millions of families now forced to live in sub-standard dwellings. What is frequently lost sight of, however, is the fact that even if the current volume of new home construction were to continue indefinitely,—last year it equalled the average reached during the building boom of the twenties,—it would take at least twenty years to provide new houses for the ill-housed one-third of today, and that by 1960 another third of our existing housing supply will have reached the age of technological retirement. Without developing further the various ramifications of the problem of improving housing conditions, it is obvious that to provide adequate shelter for those in need of it is a task which, at best, will take several generations to complete.

### *Raising Housing Standards*

Granted that the standard of housing as a whole is raised primarily by replacing obsolete existing dwellings with modern new homes, the standard of housing for an individual family is raised when it moves into a home which represents an improvement over its previous place of residence, and the home it moves into need by no means be a new house. In fact, the great majority of families who live in homes which were not built for them is ample evidence that building a new home was not necessary to improve their living standard, and few will deny the average family today lives in a better home than it did a generation ago, if only because of more adequate heating and plumbing which are available to a larger number today than ever before. Archaic though much of our present housing may be, it is obvious that important progress is being made in the design and equipment of buildings everywhere, and that the quality of shelter for the average family is constantly being improved.

### *Family Income Determines Quality of Housing*

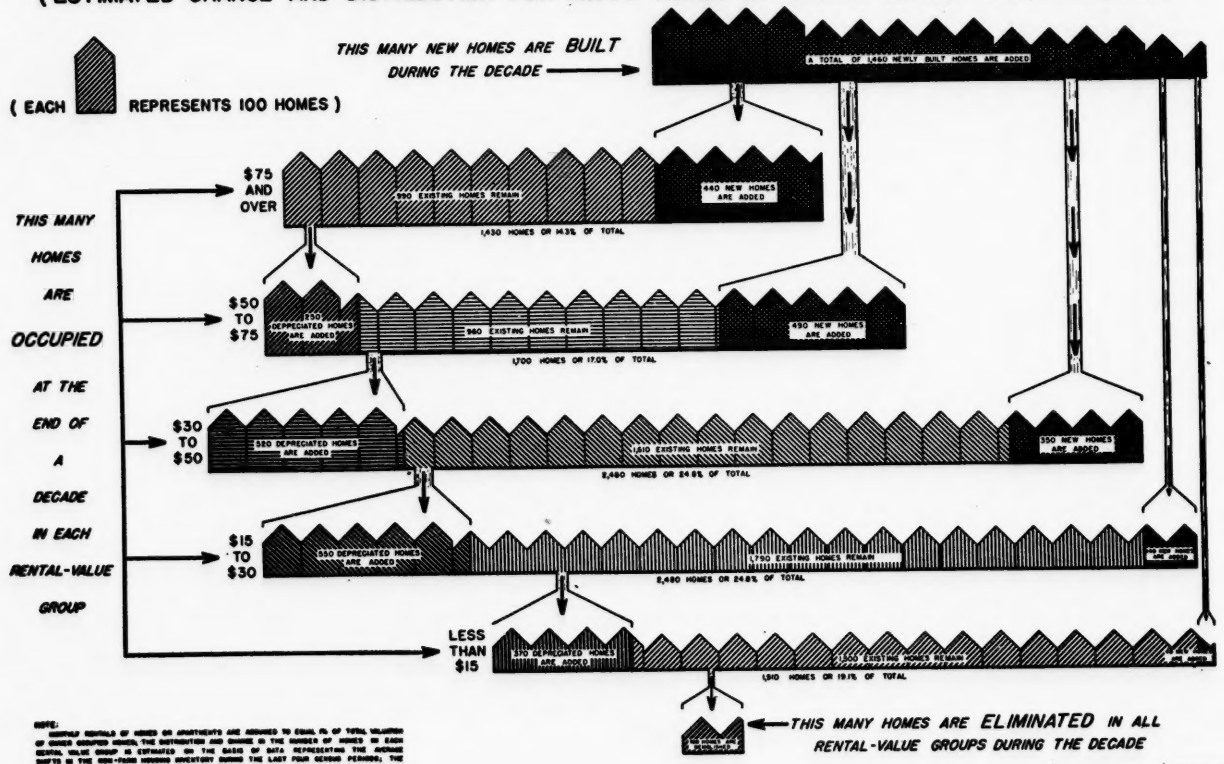
It is necessary to distinguish between the improvement of housing standards in general and of housing for an individual family which depends almost exclusively on the amount of money a family is able and willing to spend for shelter. It stands to reason that the more a family can afford to spend for its housing the better the home it will occupy. Morever, since more efficient home building and neighborhood planning methods make possible the production of better and more modern homes for the same or less money than can be found in existing houses for sale or for rent, it follows that the families able to afford to pay more are able to move into the more modern houses, while families who cannot afford a new home live, as a rule, in the older and less attractive existing dwellings.

### *Existing Homes Predominate in the Housing Market*

The obviousness of this observation would make it superfluous indeed if it were not so commonly disregarded in almost every discussion of the low-cost housing problem. "New housing for everybody" slogans are typical of the wishful thinking which permeates the housing issue, even though it requires only a casual glance at the figures to prove conclusively that no

# HOW NEW CONSTRUCTION AND DEPRECIATION CHANGE A CITY'S HOUSING SUPPLY DURING A DECADE

(ESTIMATED CHANGE AND DISTRIBUTION PER 10,000 HOMES IN VARIOUS RENTAL VALUE GROUPS)




NOTE:
NUMBERS REFERRED TO HOMES OR APARTMENTS ARE ASSUMED TO EQUAL 1% OF TOTAL VALUATION OF OWNER OCCUPIED HOMES. THE DISTRIBUTION AND CHANGE IN THE NUMBER OF HOMES IN EACH RENTAL VALUE GROUP IS ESTIMATED ON THE BASIS OF DATA REPRESENTING THE AVERAGE SHIFTS IN THE NON-FARM HOUSING INVENTORY DURING THE LAST FOUR CENSUS PERIODS; THE ADDITIONS OF NEWLY BUILT HOMES IN EACH PRICE GROUP ARE BASED ON A STUDY MADE BY THE BUREAU OF LABOR STATISTICS IN 1936, CALCULATIONS MADE BY U.S. DEPARTMENT OF INTERIOR 1940

FEDERAL HOUSING ADMINISTRATION
DIVISION OF RESEARCH AND STATISTICS
CHART NO. 350

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matter how many new houses are built yearly from now on, it will take, at a current rate, sixty years to equal the supply of existing homes already built.

Since even the poorest family occupies some kind of shelter, and since very little, if any, new lost-cost housing has been built in the past, it is significant to study how so large a proportion of the population came to occupy homes which obviously were not intended for them when they were built. Such an analysis indicates that in the average American city the number of depreciated existing homes added each year to the total supply of low-cost housing greatly exceeds the number added through new construction, and that a slow but constant rotation takes place as new and usually more expensive houses are added and old and depreciated houses are shifted into the lower cost market or demolished.

### *Graphic Analysis of Depreciation*

Since there is no reason to believe that existing houses will not continue to depreciate as they have in the past, an attempt has been made in the accompanying chart to illustrate how depreciation of existing homes and construction of new homes affect the supply of housing in various rental value groups. The chart is based on an analysis of changes in the non-farm housing supply during the last four census periods and it projects into the next decade the trends established during the previous forty years. It is not so much an attempt to look into housing's future, however, as it is an attempt to present new home construction and existing home depreciation in the perspective of the total supply. With due allowance for the shortcomings of the available data and the simplified method used in developing them (both of which are to be explained) the chart is intended to visualize the shifts in the dwelling supply which are likely to take place.

*What the Chart Shows.* First of all, the chart shows that, for every hundred families in 1950, only 15 families will be living in new dwelling units built during the coming decade, while 85 families will be living in existing homes built prior to 1940. In other words, unless past trends are drastically changed, only one in every seven families can expect to move into a new home within the next ten years, while the other six families are likely to remain in their present home or to move into an existing house vacated by another family. Obviously, therefore, the job of rehousing our urban population in new homes will be a slow one, at best.

The second thing the chart shows is that the proportion of new homes to be added to the supply in any one rental value group is progressively less in the lower value reservoirs, while the proportion of depreciated existing homes is progressively larger. Comparing, for instance, the next to the highest and the next to the lowest rental value groups, the chart shows that in the $50 to $75 rental range, twice as many new homes will be built as will be added through depreciation, whereas only one-fourth as many new homes will be built as will be added through depreciation in the $15 to $30 rental value group. The chances of moving into a newly built home are, therefore, measurably greater for a family able to pay the higher shelter rent. In fact, on the basis of these estimates, one in every three families able to pay $50 or more will move into a new home within the next ten years, whereas only one in every thirty families paying less than $30 per month for its shelter will have the opportunity to do so. Regardless of the emphasis it receives in all quarters, low-cost housing construction would have to increase many fold before any appreciable difference could be noted in these ratios.

Thirdly, the chart emphasizes the fluid condition of the housing market in general. Newly built homes added to the supply of housing in one rental value group compete with existing homes which have depreciated from a higher price group through deterioriation or obsolescence of the structure or the neighborhood, or both. Constant movements in building techniques and changes in housing requirements cause such shifts in the value of a city's existing housing inventory to take place. At the same time, however, the housing supply on the whole will continue to be increased and replenished gradually, as it has in the past, with new homes in the various rental groups, while only a very small number of homes—16 in every 1,000 or 1.6% accord-

ing to the chart—will be demolished or destroyed within the next ten years. In spite of the fixed location and long life with which houses are endowed, the dynamic nature of the housing supply as characterized by this rotation of the yearly housing crop, cannot be overemphasized.

### *Method of Presentation and Limitations of the Data*

In the accompanying chart an attempt is made to illustrate a method of approach rather than to give a factual analysis. The reader will make allowances for any differences in these figures with data which he feels may represent a more accurate or more reasonable estimate of the situation. Inadequacies in the available qualitative statistics on the existing supply of housing and new home building are so widely recognized that a discussion of the obvious shortcomings of the figures presented in the chart is hardly necessary. Similarly, the over-simplified presentation of a rather complex problem in housing economics is equally in need of improvement and refinement. Nevertheless, a brief description of the sources of data used in preparing them graphically may be of interest. Special significance is to be attached to the method and relationships applied in the chart rather than to the absolute figures derived therefrom.

(1) The number of occupied non-farm homes enumerated by the Census was accepted as the most accurate measure of the supply of both tenant and owner occupied homes. Since the statistics for the 1940 Census are not yet available, the proportions of dwellings in each rental value group in 1930 to the total in that year were used. Vacancies were assumed to represent a constant proportion of the total supply, and therefore were disregarded in these calculations. By using 1% of the total property value of owner-occupied homes as its equivalent monthly rental value, the combined number in each rental group was derived for purposes of this analysis. Applying the distribution by rental value groups to the total number of non-farm homes enumerated in each Census since 1900 permitted the computation of the net increase in the supply of homes during each decade. The average of these net increase figures per 10,000 homes was arbitrarily used as the "estimated" increase during the coming decade.

(2) The volume of new dwellings added to the supply through residential construction was based on building permit records of the Bureau of Labor Statistics; the distribution into various price groups was based on a special study published in 1937 by the Department of Labor showing a breakdown of building permits by price classes. These price class intervals were increased by 33% in order to make them comparable to the ranges of rental values used in the chart, which cover the entire property including house and lot. No consideration was given, on the one hand, to possible changes in the average cost of newly built units resulting from improvement in the quality and equipment of homes since 1900, and to the growing emphasis in recent years on new low-cost home construction, on the other.

(3) In order to simplify the calculations and the graphic presentation of the data, all deductions from the existing housing supply through demolitions, etc., were lumped in the lowest rental value group, and it was assumed that during any one decade homes in one rental group depreciated only as far as the next lowest group. Moreover, properties which may have appreciated because of a rise in real estate values or as a result of rehabilitation were disregarded entirely in the calculations as well as in the chart. Finally, no differentiation was made between an individual one-family house and an apartment in a multi-family structure in the same rental value group, on the assumption that the type and kind of dwelling occupied by a family depends on the family's habit or preference, while the amount of shelter rent it can afford is very definitely limited by its income.

These and other limitations indicate the crude approximations made in an effort to illustrate the gradual flow in the dwelling supply which is likely to take place if past experience is a criterion.

*Use of Chart.* Once the area which comprises a local housing market is defined geographically, the distribution of its existing housing inventory and the changes due to new construction and depreciation over a given period can be estimated in the same manner as if these data were derived for the United States as a whole. By substituting actual figures which correspond to the housing inventory in a given area at a specific time and estimating the distribution of the housing inventory a number of years hence on the basis of an analysis of the probable demand for housing at that time, it is possible to determine to what extent changes in the housing demand will be taken care of by deprecia-

tion of existing homes and to what extent new home construction will be required in the various rental value groups.

The necessity for regarding the housing market in its entirety and evaluating qualitatively and quantitatively the total market over a given period rather than on a yearly basis is becoming apparent as shortcomings of analyses confined to the current rate of new home building are recognized. As discussed later, the housing market in an area is *not* synonymous with the market for newly constructed homes. The latter manifests itself only when sufficient numbers of existing units are not available in the various rental value groups, in which case newly constructed homes must be integrated into the total housing supply allowing for the inevitable shifts in the supply of existing homes as indicated in the chart; new homes need not be built to sell in price ranges in which the current demand appears to be greatest.

### *What is the Housing Market?*

In discussing the housing market it is necessary to distinguish between the demand for housing as represented by families whose current requirements for shelter of one kind or another depend on their need and capacity to pay for it, and the demand for new homes to be purchased for use or investment. The latter does depend indirectly on the size and intensity of the demand for shelter in general, but in the final analysis it is not the same, even though the customary method of financing homes makes the distinction difficult.

The basic market for housing is the family—able and willing to pay a certain proportion of its current income for the privilege of occupying a home during a given period. Thus, a family in a certain income level is able to choose among various kinds and types of homes on the market the one which seems to offer the greatest amenities and appears to be the most desirable at the price the family can afford. A new home or apartment with all modern conveniences, located in a pleasant neighborhood, offered at a monthly cost no higher than an obsolete home in a rundown neighborhood, is obviously in a better competitive position than the latter. If, on the other hand, the new home is much smaller, is not easily accessible, and lacks many of the amenities an older and larger home closer to schools and shopping areas offers, then the latter enjoys the greater competitive advantage. These are only a few of many criteria, some compensating, some distinguishing, which determine the market price of a home. From the point of view of the family renting or purchasing a home out of current income, the choice must always be made among a variety of properties, some perhaps newly built and as yet unoccupied, others old but offering advantages which the new house may not.

The competition between the owner of existing homes or the builder of new homes for tenants or purchasers in various income groups depends on their ability to price their product sufficiently low to attract the market. In this respect the builder of new homes is at a disadvantage, because it is physically impossible for him to produce a new house for much below a certain minium cost and still have it conform to minimum building code requirements, while the existing home owner is limited only by an artificial rigidity of a price system buried in the sands of fictitious values.

Not only is the new home builder handicapped by building codes and minimum construction costs, but unless he is able to produce a home which offers considerably more in the way of design, equipment, location and other amenities than competing existing homes, his competitive position is a precarious one. Most discouraging, however, is the fact that the more he succeeds in producing a desirable house at a given price, the faster will existing homes of approximately equal quality and desirability depreciate and compete with his new homes on a price basis. And since so many more existing homes can be added to the market by depreciation than new homes can be added at lower prices, through new construction, the new home builder is competing against difficult odds indeed, especially in the lowest cost field.

### *Integrating the New Housing Problem*

Before discussing the application of this analysis in planning a new home construc-

tion program for the United States, certain observations must be made in regard to this chart which have a fundamental bearing on the housing problem.

Determining the type and size and age of dwelling units for which there is a demand, is wholly a question of analyzing the local situation. This demand will vary from city to city, as indicated by the number and kind of homes already built in various rental value groups. Families living in these homes constitute a demand for housing to the extent to which better homes can be provided for them for less money than they are now paying in rent on monthly carrying charges. Since present methods of home purchase financing are practically identical with renting, the current housing expenditures of families represent the most realistic yardstick of the housing demand.

The market for new homes, on the other hand, depends primarily on the willingness and ability of potential owners to finance the construction of a new house on terms which compare favorably with the cost of renting or owning an existing property offering similar amenities. Obviously, therefore, competition in the market for newly built homes is not alone with other new homes, but primarily with existing homes in the same rental value groups. It is significant to note, therefore, that this competition becomes increasingly difficult in the lower rental value groups. The inevitable predominance of depreciated existing homes must be pointed out repeatedly lest the growing emphasis on new low-cost home construction obscure the issue.

More important still, is the fact that the more new homes are built to sell or rent at prices which represent a temporary saving over the cost of comparable existing properties, the faster will existing properties depreciate and eventually clutter up the market.

Rapid strides made in home construction methods—in spite of the "handicraft" criticism frequently laid at the feet of the building industry—and streamlined financing methods for buying new homes under the FHA plan, have made it possible to get more "house per dollar" today than has ever been possible to buy in the past. Every time a better house is built to sell for the same or less money, the value of an existing house drops in proportion to its shortcomings in comparison to the newly built home. As in any other field, progress in new housing causes obsolescence in existing homes, and the more rapid the improvements in new construction, the faster the rate at which existing homes depreciate. Recognition of these facts is inevitable.

Measures to assure an orderly manner in bringing about these shifts in the housing market will have to be devised in the near future. Obviously, the interests of those constructing homes for sale, and those already owning existing homes are antithetical. Only to the extent that mortgage institutions with interests in both new and existing mortgage financing are concerned with the safety of their investments can a new construction program be integrated with the existing housing inventory. In that respect the FHA has a correlative interest in this process in that it insures the mortgages on both new and existing homes. (Limiting FHA insurance to new construction only would immediately bring this conflict of interests into the open.) What can be done, in view of these facts, to overcome the dilemma?

First of all, the existing housing supply in the United States and in each housing market area which makes up the national market will have to be measured more accurately. The Census of Housing, Building Permit records, income and population figures for each area will have to be integrated to give an accurate picture of the housing demand in each area as was attempted in the chart for the United States as a whole.

Secondly, a program of new construction will have to recognize these constant shifts in existing home properties which make competition more difficult. The type, size, location, and above all, the price range of new dwellings will have to be determined exactly in order to assure as rapid absorption of the new houses as possible.

Thirdly, only by bold planning and with the fullest use of the imagination can the building industry hope to produce a house which will anticipate future housing standards and thereby retard, to some extent at least, obsolescence. If it succeeds in this aim, it cannot and should not hope to

produce a low-cost home at the same time. The two conditions are not compatible. If a choice needs to be made then, it would appear in line with progress in other fields that whatever new housing is built should represent a distinct improvement in the quality over existing housing facilities and therefore hardly expect to compete in the low-cost housing market. The supply of low-cost housing will be increased automatically as more and more new housing comes on the market, for depreciated existing homes which are displaced are, and always will be the large source of low-cost housing in the United States.

*(The views expressed in the above article are not necessarily those of administrative officers in the Federal Housing Administration or the National Housing Agency.)*

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## Land Resources Department

# Ordnance Causes Ordinance in Crawford County, Pennsylvania

THE history of zoning, both urban and rural, is filled with interesting incidents which are often overlooked once the particular ordinance is adopted. Following the Modesto (California) experience nearly sixty years ago, ordinances were created out of situations varying from tax delinquency and local government costs in sparsely settled forest areas to lot-size control in suburban residential districts near our largest cities. Zoning ordinances have been motivated by the general necessity of harmonizing public and private interests, but none can be traced specifically to so universal a cause as a World War. Crawford County, Pennsylvania, holds that unique distinction.

Last November, the War Department issued a directive for the construction of a TNT plant in Crawford County. The site chosen was a twenty-thousand-acre, marginal agricultural area about twelve miles south of Meadville. Over two hundred families were living in the area but less than forty of these were engaged in full-time agriculture. The balance were part-time farmers or persons who gained their entire livelihood from non-farm employment in Meadville. The ordnance construction gave rise to the problem of relocating the families in the area but, of far more significance, it also presented the people of the county with the necessity of making adjustments to absorb the development, as a whole, into local economy.

It is not the purpose of this article to report in detail the process of the evacuation and relocation of the dispossessed landowners. This task was assigned to the United States Department of Agriculture, representatives of which set up a field office near the site as soon as the War Department began appraising properties early in December. By giving financial assistance, advice, and whatever additional aid was found necessary, the work was accomplished with a minimum of friction and difficulty. Once the machinery for relocating the residents was running smoothly, attention was turned to the larger aspects of the situation out of which the zoning ordinance itself evolved. It is with these that this paper is concerned.

The most pressing problems were those involved in accommodating the 8,000 to 10,000 transient workers engaged in the construction of the defense plant itself. A meeting of all the county social and civic organizations was called the first week in December to discuss these problems. Present at this meeting were representatives of the Department of Public Assistance, U. S. Department of Agriculture, Tuberculosis Society, Associated Charities, Red Cross, Y. M. C. A., Salvation Army, Child Welfare Association, Parent-Teacher Association, and various women's clubs. It was apparent to all that the housing and sanitation facilities of the county were hopelessly inadequate to handle the expected influx of workers. So also, it was soon revealed, were school and recreational accommodations.

The group made an appraisal of the means at the community's disposal to handle these difficulties. Conclusions were reached that the Farm Security Administration might erect trailer camps to alleviate the housing situation, that the state police could control the increased traffic congestion, and that the United Service Organizations could handle the recreational problem. The State Department of Health could assume the responsibility for the sanitation problem. Immediate attention to the school situation was minimized in view of the fact that schools would be dismissed for the summer vacation by the

time peak employment was reached. It was assumed, too, that most of the workers would be single men.

It became apparent, however, that the group needed to take a longer view of the problems and to consider the type of permanent community that could be expected to grow up around the new plant. Those engaged in the construction of the plant would leave within twelve to fifteen months, but the personnel operating the plant would remain to be assimilated in some way into the social and economic life of the county. Not only the Farm Security Administration, but anyone could set up trailer camps. Even farmers would be only too willing to rent parking space to individual trailer owners. The net results would be such a scattering of trailers as to make sanitation control by the Department of Health virtually impossible. Many of the workers who could not afford trailers would cluster together in disease-breeding tent-towns and shanty-towns just as was done during the construction of both the Pennsylvania Super Highway and a TNT plant in Ohio. Still others would have to crowd together in hastily remodeled, firetrap rooming houses. Soon rural slums would develop, followed by decreasing land values with loss to the county tax base, giving rise eventually to far more perplexing and troublesome problems than faced the county at the moment.

During the ensuing discussion, zoning was suggested as a device that could be used to guide and control land use and community development in rural areas in the same way in which cities used it to control urban growth. Numerous questions were raised immediately. Not more than one or two in the group were aware that county zoning-enabling legislation had been enacted in 1937.

After a discussion of the possibilities that existed under the Enabling Act, no time was wasted in marshalling forces. The group organized, taking the name of Social Agencies Planning Committee, and sent a delegation the following day to the county commissioners asking that they immediately get the assistance of the State Planning Board and draft a zoning ordinance for the county. During the following week the county commissioners and the Social Agencies Committee sought informative material on zoning. The chairman of the commissioners was intensely interested in zoning, and through his efforts a County Zoning Committee was appointed within a few days. Shortly thereafter, the committee was broadened into a planning and zoning Commission. Following this, a meeting was held to discuss the drafting of an ordinance, with the result that Russell Van Nest Black was retained to write it. The county commissioners met within a few days and appropriated three thousand dollars to defray the cost involved in drafting the specific ordinance proposal.

In the meantime, the Social Agencies Committee had been busy. Panel discussions were held all over the county in an effort to educate people with respect to zoning and other methods of protecting themselves against the potentially undesirable impacts of the new industry.

The next move on the part of the Planning and Zoning Commission was an extralegal procedure designed to prevent activity on the part of property owners in circumventing the intent of the eventual ordinance. The following letter was sent to all owners of rural real estate in the County (outside of cities and boroughs):

"To the Owners of Real Estate in Crawford County

*Gentlemen:*

This letter is to inform you that there is in process of enactment a Crawford County Zoning Ordinance, which may, or may not, have an effect on the future uses of the land which you now own, and on the future uses of the buildings and structures thereon now in existence or proposed.

Experience throughout the United States indicates that when thousands of workers suddenly come into a region to build a great plant in a hurry, such as the Keystone Ordnance Works now under way in Greenwood Township; and other thousands come in to operate it; and other groups come in who intend to house and feed the workers, entertain them and to supply their other wants and necessities; together with the usual camp-followers, hangers-on and parasites; that certain nuisances and menaces to the public health, present and future inhabitants of the State are created,

particularly in the territory adjacent to the plant, unless there is some control or regulation. It is apparent that the only means by which control or regulation of the uses of land, buildings and structures in the area outside of cities and boroughs (which have other means of control and regulation) is by the enactment and enforcement of a County Zoning Ordinance.

One of the purposes of the proposed zoning ordinance is to protect the present and future inhabitants of Crawford County from dangers which may arise in respect to temporary and permanent housing, health and sanitation, safety, law and order, morals and other matters of public welfare.

It is perhaps not necessary to say that the proposed county zoning ordinance is a measure intended for the benefit of the public at large, and that it is not promulgated for the benefit of, nor for the detriment of, any individuals or groups. There is no intention to interfere with anyone's rights or the privilege to do what he wishes with his own private property, or to exercise any control or regulation of private property, except in cases where the public health, public safety or general public welfare and interest is jeopardized.

It is expected that the county zoning ordinance will be enacted and become operative within a few weeks. Before it is enacted in final form public hearings will be held, at which opportunity will be given to all interested persons to have their say. Ample notice of the time and place of the public hearings will be given by legal newspaper advertisements.

Attention is called to the fact that the law provides penalties for violation of the zoning ordinance; that it provides means by which non-conforming uses of lands, buildings or structures in existence at the time of the enactment of the ordinance may be abated or terminated; and that it provides for the hearing and adjustment of appeals.

One of the purposes of this letter is to suggest that if you intend to sell, lease, buy or rent property in Crawford County (outside of a City or borough) to be used for any purposes other than those for which it is used at present, it would be advisable to find out if possible if the intended uses will conform to the requirements of the zoning ordinance. Pending the enactment of the zoning ordinance, of course no official statements can be made as to whether the proposed uses of particular properties will be in conformity with, or contrary to, its provisions; but in most instances the attorney or the engineer for the Planning and Zoning Commission will be able to furnish enough information to enable you to determine their status. In any case, action taken prior to the passage of the zoning ordinance leading to a change from the present uses of lands, buildings or structures, will be taken at the risk of the owner of the property.

Very truly yours,
CRAWFORD COUNTY PLANNING COMMISSION
....., *Chairman*
....., *Attorney,* 353 Center St., Meadville, Pa.
.....*Engineer,* 537 Baldwin St., Meadville, Pa."

However extra-legal the letter may be, many people did seek the advice of both the attorney and the engineer before making changes in the use of their property,—changes that would have become non-conforming uses after the passage of the ordinance.

Little opposition was voiced during the first public hearing on the proposed ordinance. Rather, the few people who attended that hearing on March 20 appeared to do so out of curiosity alone. But the final hearing on April 25 was well attended by people opposing the ordinance. Included in this group, according to the account of the meeting in the *Tribune-Republican,* Meadville, April 27, were representatives of the Associated Petroleum Industries of Pennsylvania and the Highway Property Owners Association. The latter was organized just prior to the hearing and was represented by an attorney who has been associated with a bill-board advertising company.

The chief complaint was against zoning of the entire county instead of only the southwestern townships surrounding the ordnance plant area. In order to appease those who opposed zoning of the entire county and to avoid any further delay in its adoption, the proposed ordinance was amended to include only fifteen townships in the vicinity of the TNT plant area. The ordinance was adopted May 27, almost six months after zoning was first suggested to the people of the county. It provides for four types of districts, namely: Rural Zones, Residence Zones, Business Zones, and Industrial Zones.

The intent of the letter quoted above is expedited by a provision in the ordinance under Section II: "All uses of lands and of buildings and structures, which are in existence at the time of the enactment of this ordinance, but which are not the original uses or were not in existence on January 1, 1942, and which do not con-

form to ordinance requirements shall be terminated within thirty days after the enactment of this ordinance." Thus the ordinance is made retroactive to January 1st so far as non-conforming uses are concerned, and administration, except for the question of actually terminating those changes which have taken place between January 1 and April 27, should be much simpler than if April 27 were the effective date.

The problems of occupancy and use in rural zones created by the influx of population resulting from the plant construction are attacked by the following provisions under Section III:

*Paragraph 7:* Rural Zones are intended primarily for farming and rural-residential uses, and for the trades, occupations, and other uses and activities common to rural and semi-rural areas in Northwestern Pennsylvania.

*Paragraph 8:* There shall be permitted in rural zones all forms and parts of agriculture, horticulture, grazing and lumbering, dwellings, and all other uses not specifically prohibited hereinunder.

*Paragraph 9:* There shall be prohibited in rural zones all forms of processing and manufacturing, except the processing of agricultural products, and the sawing and rough-finishing of lumber.

*Paragraph 10:* There shall be prohibited in rural areas all forms of business except the following:

a. The sale of farm products and farm equipment and supplies.

b. The quarrying and removal of rock, stone, sand, gravel and other surface deposits, the mining of coal, minerals and other subsurface deposits, and the crushing, sorting, processing and sale thereof on the property where taken; and the extraction of oil and gas and the processing and sale thereof on the property where taken.

c. Trailer camps, tourist camps, and tent camps, summer camps and summer cottage developments shall be prohibited in rural zones except under the following conditions.

1. The application for permit shall be accompanied by a plan drawn to scale, showing the location of the proposed camp in relation to all roads, streets and property lines within two hundred feet of the camp boundaries, the location, size and arrangement of all camp roads and camp lots; the location of all sanitary facilities, wells or other sources of water supply, special camp buildings; and other pertinent camp features.

2. The camp plans shall be approved by the Zoning Officer before the first, or provisional permit is issued.

3. The final, or occupancy, permit shall be issued after the Zoning Officer or an authorized representative of the State Department of Health, or both, have inspected the sanitary facilities, including the source of water supply, and have found them to be acceptable and in accordance with State regulations.

4. Failure to maintain acceptable sanitation standards for drainage, sewage and waste disposal and a safe water supply will be cause for revocation of the permit.

5. No camp boundary line shall be located within four hundred feet of a residence not on the same property, except where there is an intervening business structure other than a billboard.

6. The size of individual lots in trailer camps, tourist camps or tent camps shall be not less than 30 ft. x 40 ft.; and in summer camps and summer cottage developments not less than 40 ft. x 80 ft. The lots shall be so arranged that no trailer, cabin, tent, cottage or other structure shall be within 20 feet of any camp boundary or within 10 feet of any other trailer, cabin, tent, cottage or other structure. No part of any trailer, cabin, tent, cottage, or other structure shall be placed closer to any public road than the setback line established for that road.

7. No business or industries shall be conducted in camps in rural zones except such business as is incidental to camp operation or primarily for camp patrons, the sale of trailers, the sale of groceries, gasoline and general supplies, or restaurants.

*Paragraph 10, C, 8* defines "Trailer or House Car", "Trailer Camp", "Tourist Camp", "Tent Camp", "Summer Camps and Summer Cabin Development."

Two features of the ordinance are directed at control of auto graveyards (Section III, 10d) and billboards (Section III, 10, e), as follows:

*Paragraph 10, D:* Automobile graveyards and disassembly plants, junk yards and garbage and refuse dumps shall be prohibited in rural zones except under the following conditions:

1. If effectively screened at the front and sides by a wall, fence or shrubbery at least 8 feet high, they shall be placed not less than 400 feet from any public thoroughfare.

2. If unscreened, they shall be placed not less than 1,000 feet from any public thoroughfare and not less than 200 feet from any property line.

*Paragraph 10, E:* Stationary signs and billboards shall be prohibited in rural zones except under the following conditions:

1. Signs advertising business conducted on the premises, or products or materials grown or produced on the premises; real estate signs on the premises offered for sale, the customary professional signs, tourist home signs, and camp signs, may be erected on the premises where such business is conducted.

4. No sign having an area of more than 40 square feet shall be placed closer to any public road than the set-back line established for that road.

5. At intersections of roads, no sign of any size shall be set closer to any public road than the set-back line established for that road, other than traffic signs or signs necessary for the public safety or welfare.

6. Free-standing signs or billboards having an area of more than 40 square feet, and advertisements on barns, buildings or other structures having an area of more than 40 square feet, shall be regarded as business structures within the meaning and intent of this ordinance. No signs, or advertisements on barns, buildings or other structures, other than those permitted by sub-paragraph 10-e-(1) above, shall be erected or placed in rural zones.

Section IV defines Residence Zones and permits the following uses in these zones: dwellings, schools, churches and hospitals; public parks and playgrounds; private clubs and recreation areas not operated for profit; the processing and sale of agricultural products on the properties where produced; all forms of agriculture and horticulture except the commercial keeping of hogs; and all other uses not specifically prohibited in the ordinance.

Prohibited uses are all forms of processing and manufacturing except the processing and sale of agricultural products on the properties where produced; all forms of business and commercial uses except those of a local or neighborhood character placed on lots designated for the purpose in subdivision dedications; stationary signs and billboards except under the same conditions as apply in rural zones.

Uses and prohibited uses in Business Zones are covered in Section V of the ordinance:

*Paragraph 16.* Business zones are intended primarily for business and commerce, and are established in areas where there are or may be local business, professional, and service enterprises, and commercial activities of a neighborhood or regional character.

*Paragraph 17.* There shall be permitted in business zones stores, offices, salesrooms, service stations, repair shops, theaters, hotels, restaurants, public garages, public and quasi-public buildings, bus-stations; all the uses permitted in residence zones and all other uses not specifically prohibited hereunder.

*Paragraph 18.* There shall be permitted in business districts processes of manufacturing, assembly or treatment which are clearly incidental to a retail business conducted on the premises and which do not constitute a public nuisance by reason of odor, noise, dust or smoke.

*Paragraph 19.* There shall be permitted in business zones, building material sheds and yards and coal yards, under the condition that no materials may be piled or stored in the open within 25 feet of any property line, unless said property line is effectively screened by a wall, fence or shrubbery at least 6 feet high.

*Paragraph 20.* There shall be permitted in business zones signs and billboards, and advertising on barns, buildings and other structures under the same conditions as apply to other structures and uses in business zones.

*Paragraph 21.* There shall be permitted in business districts machine repair shops, laundries, dyeing and cleaning works, and light manufacturing plants which employ not more than ten persons exclusive of office and management personnel and which do not constitute a public nuisance by reason of odor, noise, dust or smoke.

*Paragraph 22.* There shall be permitted in business districts trailer camps, tourist camps and tent camps; summer camps and summer cottage developments under the same conditions as apply in rural areas.

*Paragraph 23.* There shall be prohibited in business zones, all forms of manufacturing, processing and assembly except those which are permitted under paragraphs 18 and 21; automobile graveyards and disassembly plants, junk yards and garbage and refuse dumps; the commercial keeping of hogs and the manufacture or bulk storage of illuminating gas.

All types of use are permitted in Industrial Zones. Section VII provides for set-back lines as follows:

*Paragraph 26.* In all zones, no part of any building or structure, exclusive of overhanging eaves or cornices or open porches, shall be placed nearer than 85 feet to the center line of any road on the primary system of the Pennsylvania Department of Highways, nor nearer than 60 feet to the center line of any other public road.

*Paragraph 27.* In all zones, if there are within 200 feet of the proposed building, an existing building or buildings which are closer to the road than the established set-back line, the proposed building may if desired be placed on line with the existing building or buildings, or any distance back thereof.

*Paragraph 28.* In all zones if set-back lines be established or have been established in any area by dedication and be or have been recorded in the office of the Recorder of Deeds, which are greater than the set-back distances established by this ordinance in paragraph 26 above, such dedicated and recorded set-back lines shall supersede and prevail over the set-backs established by this ordinance, and shall be the required set-backs.

The reader's attention is called to the omission of any specification on lot sizes and building heights even in Residence Zones, except for the regulation applying to Camps (Section III, 10, C, 6) and the set-back control under Section VII. This omission indicates that the ordinance is aimed more at control of type of use than at condition of use.

The ordinance provides that building permits (Section VIII) shall not be required for any farm building other than a dwelling, nor for small accessory buildings or alterations having an area of two hundred square feet or less or estimated to cost less than three hundred dollars. Provision is made for both building and occupancy permits. The former is issued after plans for the building have been approved by the proper authority. The occupancy permit is issued only after the construction has been inspected and approved by the zoning officer, and when so required, by the State Department of Health. This section of the ordinance provides also for the issuing of temporary permits for non-conforming buildings or uses incidental to housing or construction projects on the same premises. "Temporary permits shall be issued for non-conforming buildings or uses incidental to housing or construction projects on the same premises, including such uses as tool sheds, storage sheds, temporary housing and offices, mess-halls and other structures required for the period of construction. Temporary permits shall be issued for a period of not more than one year, and may be renewed not more than twice. Temporary permits shall be issued only on condition that the owner agrees in writing to remove such structures from the premises before the expiration of the permit." Provision is made, therefore, for needed temporary buildings and uses incidental to the construction of the TNT plant.

The following paragraphs under Section IX of the ordinance provide for its administration:

*Paragraph 34.* The provisions of this ordinance shall be administered by an agent appointed by the County Commissioners, who shall be known as the Zoning Officer. The Zoning Officer shall issue permits, make inspections, and perform such other services as are required by this ordinance; he shall perform such other duties in connection with the administration of this ordinance as may be required by the County Commissioners; he shall keep copies of all plans and other information submitted; he shall keep all the records of his office, which records shall be a part of the public records of Crawford County; and he shall turn over to the Treasurer of Crawford County all fees and other monies received.

*Paragraph 35.* The Board of County Commissioners may at its discretion, and for the convenience of the public, appoint deputies within the zoned area, to assist the Zoning Officer in the performance of his duties.

*Paragraph 36.* The County Commissioners shall appoint a Board of Adjustment whose duty it shall be to hear and decide appeals which may be taken by any person aggrieved by his inability to obtain a building permit, or by other cause due to the administration of this ordinance; and to perform such other duties as are required by law.

*Paragraph 37.* Appeals from the decision of the Board of Adjustment may be taken to the Court of Common Pleas in the manner prescribed by law.

*Paragraph 38.* Violation of the provisions of this ordinance shall upon conviction, be punishable by fine or imprisonment, or both, as prescribed by law.

*Paragraph 39.* If any paragraph, sub-paragraph, sentence, clause or phrase of this ordinance is for any reason held to be unconstitutional or invalid, such decision shall not affect the remaining portion of the ordinance. The Board of County Commissioners hereby declare that they would have adopted the ordinance and each paragraph and sub-paragraph thereof irrespective of the fact that any one or more of the paragraphs, sub-paragraphs, clauses or phrases, may be declared unconstitutional or invalid.

*Paragraph 40.* This ordinance shall become operative immediately upon its adoption by the Board of County Commissioners.

The ordinance is much simpler than the one first proposed. It applies only to a portion of the county and no provision is made for its extension, as needed, to other parts of the county. The commission purposely omitted any reference to extension at this time mindful of the fact that provision for extension is covered in the Enabling Act itself. The ordinance as a whole deals mainly with problems in the immediate area adjacent to the ordnance plant site, but it is the intent that additional portions of the county will be included as the need arises in the future.

It is true that the war brought zoning to Crawford County;[1] the county was virtually forced to adopt zoning or some other regulatory measure. The progress of this ordinance will be observed closely by members of other Pennsylvania communities. Now that the ice is broken and precedent is established, other counties undoubtedly will be more interested in the possibilities of an ordinance to deal with local problem situations.

[1] "War Brings Zoning to Crawford County," *Pennsylvania Planning, November 1941—January 1942;* No. 3; p. 18.

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# Massachusetts Forest Tax Law

A NEW forest tax law adopted by Massachusetts at the end of 1941 provides for automatic deferment of the payment of taxes on the timber on all woodland which is assessed for less than twenty-five dollars per acre. The principle of taxing the land as such, separately from the standing timber, was early recognized in Massachusetts. As a matter of fact, Massachusetts was the first state to amend its constitution in 1914 to provide for taxation of forest land on a special basis. The expectation was that by releasing the private land-owner from the burden of payment of annual tax on the growing timber, it would be possible to encourage better conservation practices and to prevent the premature cutting of forest stands. This reform in the taxation law and a number of other measures in regard to forest land were adopted in recognition of the existing neglect and wasteful practices found on privately-owned tracts of forest land. In New England, as in many other sections of the country, the public benefits accruing from a wise forest policy include not only satisfactory timber production, but also soil conservation, wildlife propagation, development of local wood-using industries, recreation and the preservation of natural beauty.

With the decline in the total area in agricultural cultivation, which has been in progress for a considerable period of time, there has been a constant increase in the land area under wooded cover in Massachusetts. According to recent surveys, sixty-four per cent of the total area of the state, or 3,200,000 acres of land, is under some kind of wooded cover. Of this total, only 300,000 acres represent public ownership as state forests, town forests, municipal watersheds, parks and lands belonging to public institutions. Of the 2,900,000 acres of forest land in private ownership, about 700,000 acres are included in farms. The forest land outside of farms is ordinarily held in small tracts, and most of it is in non-resident ownership. In spite of the

establishment of state and town forests, which were expected to serve as examples in forest management, in spite of the creation of an extension forest service, and in spite of the special tax to encourage timber growing, very little progress has been made in securing better care of privately-owned woodland areas.

Under the original forest tax law which has been in force since 1914, any owner of forest land which had promise of future development could register his tract with the town assessors. Thereupon he was taxed annually only on the value of the land; the payment of the timber tax was postponed until the time of actual cutting when a yield tax of six per cent of the value of the timber was imposed. Under this original forest tax law, less than two per cent of the total forest area in private ownership was registered for classification.

The main departure in the new forest tax law is that its operation becomes automatic without waiting for the action of the individual owners. Specifically, the law states: "All forest land, not used for grazing and other purposes incompatible with forest production, having a value not in excess of twenty-five dollars per acre for land and growth thereon, shall be tentatively listed by the assessors as classified forest land." Under this law, however, the owner is given an opportunity to remain on a regular taxation basis if he notifies the assessors to that effect within thirty days after receiving notice that his forest land is registered for taxation on a special basis.

Inasmuch as the operation of this law may involve a considerable reduction of income from taxation on forest land and thereby jeopardize the financial condition of a good many rural towns, the law provides for a certain transition period. The reduction in annual taxes from land and timber to tax on land alone is formulated on a graduated basis over a period of eight years. The adjusted valuation of the classified forest land in the first year is defined as ninety per cent of the value of land and timber; the next year it comes down to eighty per cent, and so forth, until the eighth year when it will be ten per cent of the total value of land and timber. Beginning with the ninth year of continuous registration, no forest tract can be assessed at more than ten per cent of the value of land and timber, with the further restriction that the assessment can not be over five dollars per acre.

Another important provision concerns the inclusion of a graduated scale for the payment of the tax on timber harvested in the early period of the operation of the law. The reason for this provision is to prevent double taxation on timber that may be about ready to be harvested. When the land is classified under the new law, any timber cut within the first three years will be taxed one per cent of its value. This levy would increase during each three-year period until at fifteen years it will reach six per cent. From then on the rate of six per cent will be applied to all future cuttings. To provide wood for personal use, the law says that "the owner may annually cut, free of tax, wood or timber from such land for his own use or for the use of a tenant of said land, not exceeding twenty-five dollars in stumpage value." The owner, however, is obliged to make a report to the assessors annually, stating under penalty of perjury the amount of wood and timber cut from classified forest land during the preceding year. The town in which the assessed land is located gets the tax, both from the land and from the timber cut, except that ten per cent of the timber yield tax is to be forwarded to the treasury of the Commonwealth.

The forest tax law is inoperative when, in the judgment of the assessors, classified forest land is more valuable for other uses than the production of wood and timber, or when such land is used for purposes inconsistent with forest production.

An outstanding feature of the law is that no requirements are placed on the owner for following definite forest practices, this being at variance with the preceding forest tax law which imposed on the owners the obligation of stocking to a required standard.

Because of a very indifferent response to the former law, it was the intention of the sponsors of the new taxation to attack the problem on a gradual basis. The new law itself is considered only as a primary technical step in dealing with the difficult problem of promoting conservation under

existing conditions and forest practices. As a matter of fact, immediately upon the passage of the law, the legislature of Massachusetts created a State Advisory Forest Committee to organize and work with regional committees composed of representatives of woodland owners, wood-using industries and the general public to determine the best forest practices and to report to the legislature.

Viewing the problem as a whole, it must be stated that no matter how perfect may be the law in regard to forest taxation and practices, very little progress will be made until the numerous small holders of forest land become both conscious of and educated to the importance of forest conservation. The forest tax law by itself is not likely to get into full operation for several years, in spite of its mandatory nature, until the town assessors work out the technique of its application and the woodland owners grasp its full significance.

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# Public Utilities Department

## Trends In Federal Regulation of Motor Carriers

THE decision of the Supreme Court in the *Carolina Freight Carriers Corp.*[1] case and the recent actions of the Interstate Commerce Commission suspending the effectiveness of the territorial blanket minimum rate orders[2] for a four-month period beginning July 1, 1942, and approving the consolidation into Associated Transport, Inc.[3] of eight large Class I motor carriers which operate along the entire Atlantic Seaboard are noteworthy. They presage basic changes in entry, minimum rate, and integration policies in federal regulation of motor carriers of property. Though all raise fundamental questions of economic policy and regulatory procedure, the reversal of the Commission's commodity, commodity-point, and return-haul policies in certificates and permits commands special attention because of the Court's deep-seated criticisms of some of the economic effects of this new regulation.

Briefly, the Court upheld action by the lower court[4] setting aside the order of the Interstate Commerce Commission in *Carolina Freight Carriers Corp. Com. Car. Application*[5] and remanding this cause "to the end that the Commission may pass upon the application of plaintiff in the light of the principles herein set forth . . . and without the limitations which we have condemned."

On January 24, 1936, Carolina of Cherryville, N. C. had applied under the "grandfather" clause of Sec. 206 (a) of the Motor Carrier Act, 1935, for a certificate to operate as a common carrier by motor vehicle of general commodities, with some exceptions, over irregular routes *between all* points in South Carolina, North Carolina, Delaware, New Jersey, Connecticut, Rhode Island and Massachusetts and those in eastern parts of Virginia, Maryland, Pennsylvania and southeastern New York; and over a regular route between Cherryville and Boston. In contrast to this broad scope the Commission not only denied the application of Carolina for the regular route,[6] but also restricted authorized operations as a common carrier over irregular routes in three ways: First, it reduced the geographical area to be served and limited service to designated points in some parts; second, it limited traffic to be handled to specified commodities of a larger list previously hauled; and third, it restricted the carrier from hauling such commodities between all points in the authorized territory.

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[1] *United States et al. v. Carolina Freight Carriers Corp.*, 315 U. S. 475, decided March 2, 1942 (7-2 with Mr. Justice Douglas delivering the opinion and Mr. Justice Jackson and Mr. Justice Frankfurter dissenting). Cf. companion case *Howard Hall Co., Inc., v. United States et al.*, 315 U. S. 495, decided the same day and with similar effect.

[2] Cf., orders of Division 2 and 3 issued without reports on June 5, 1942, in Ex Parte No. MC-20 *Trunk Line Territory Motor Carrier Rates,* Ex Parte No. MC-21 *Central Territory Motor Carrier Rates,* Ex Parte No. MC-22 *New England Motor Carrier Rates,* and Ex Parte No. MC-23 *Midwestern Motor Carrier Rates.*

[3] *Cf., Associated Transport, Inc. — Control and Consolidation,* 38 M.C.C. 137, decided March 16, 1942.

[4] District Court, Western District of North Carolina, composed of Circuit Judges John J. Parker and Armistead M. Dobie and District Judge Edwin Yates Webb. Cf., *Carolina Freight Carriers Corporation v. United States et al.,* 38 F. Supp. 549, 556, handed down by Judge Parker, April 5, 1941.

[5] 24 M.C.C. 305, decided July 10, 1940, by Division 5 composed of Commissioners William E. Lee, John L. Rogers, and William J. Patterson. The carrier operated 6 to 8 trucks on June 1, 1935, and "about 16 cargo-carrying units" at the time of hearing.

[6] According to the *Brief* filed before the Supreme Court for the Interstate Commerce Commission, the part of the application covering the regular-route operation was abandoned at the hearing; Footnote 2, page 5.

The commodity and point rights varied as between northbound and southbound movements. On the former, Carolina was permitted to haul *cotton yarn* from all points in 12 counties in North Carolina to Hagerstown, Md., New York, N. Y., Pawtucket and Providence, R. I., all Pennsylvania points on and east of U. S. Highway 11, and to points in 8 counties in New Jersey and *asbestos textile products* from Charlotte, N. C. to 2 points each in Pennsylvania, Massachusetts, and Rhode Island, 4 points in New Jersey, and one each in New York and Connecticut. Though the Commission said the evidence clearly established that prior to June 1, 1935, applicant had originated cotton yarn at Clover, S. C. and had delivered yarn shipments to Baltimore and Elk Mills, Md., Wilmington, Del., Newburgh and Clark Mills, N. Y., the authority granted as to this commodity excluded these points.[7] Moreover, it allowed deliveries of such types of commodities to only 2 of 10 points formerly served in Massachusetts, 2 of 5 in Rhode Island, 1 of 5 in Connecticut, and Carolina could not carry tires and tubes northbound as before the "grandfather" date. On the southbound movement Carolina was limited to *supplies and materials for asbestos manufacturing* from 2 New Jersey points to Charlotte, *petroleum products in containers* from 1 point each in New Jersey and Pennsylvania to 2 South Carolina and all North Carolina points, *linoleum* from 1 point each in New Jersey, Pennsylvania and Massachusetts to 2 South Carolina, and all North Carolina points, *canned goods* from Baltimore to Shelby, N. C., *beer and ale* from Newark to 2 North Carolina points, and *roofing and screen wire* from York, Pa. to all North Carolina points. The Commission, however, had found evidence of southbound shipments prior to June 1, 1935, in a "variety of commodities" to a few points in Virginia (no deliveries permitted) and South Carolina and scattered points in North Carolina.[8] Without distinguishing the direction of haul or points authorized, the Court noted that "The Commission in this case authorized the carriage of about a dozen kinds of commodities, though in prior operations about three times that number had been carried."[9]

The Commission limited the authority of Carolina to this number of commodities from and to the above named points on its conclusion that substantial evidence as a whole showed that only these were handled "with a degree of regularity both prior to and since June 1, 1935." But the following justification for restricting Carolina to the precise pattern of its former substantial operations was picked up by both courts as contrary to the plain meaning of the Interstate Commerce Act:

> "Common carriers . . . expected to maintain regular service for the movement of freight in whatever quantity offered, to and from all points on a specified route, cannot operate economically and efficiently if other carriers are permitted to invade such routes for the sole purpose of handling the cream of the traffic available thereon in so-called irregular-route service."[10]

The lower court declared "Congress has made no such distinction between common carriers by regular and those by irregular routes; and, for the Commission to make such distinction is to add to the act of Congress in favor of one class of carriers and against another".[11] The high Court concluded "There is no statutory warrant for applying to irregular route carriers a different or stricter test as to commodities which may be carried than is applied to regular route carriers."[12]

The rejection of the Commission's principles in limiting the operating rights of irregular route common carriers (and by inference, other common carriers) was not complete. The Supreme Court held that the Commission was justified in the restrictions which it placed on the geographical scope of Carolina's operations. Speci-

[7] 24 M.C.C. 305, 306.
[8] *Ibid.*, p. 307.
[9] 315 U. S. 475, 484.
[10] 24 M.C.C., 305, 309.
[11] 38 F supp. 549, 556.
[12] 215 U. S. 475. The Supreme Court added with reference to such justification repeatedly stated by the Commission: "Insofar as that view establishes a different test for commodities which may be carried by irregular route operators than for commodities which may be carried by regular route operators, it is erroneous as a matter of law."

fication of a designated territory rather than definite routes and fixed termini was found to fit the peculiar requirements of irregular route operators, and further delimitation of points within such areas, when justified by application of the principles suggested to the Commission, "has been entrusted by the Congress to the Commission."

Serious doubts were expressed by the Court, however, that the commodity, commodity-point, and return-haul restrictions reflect proper criteria in terms of statutory requirements. Noting that the statute requires a showing of "bona fide operation as a common carrier" on and since June 1, 1935, and defines a "common carrier by motor vehicle" (same for regular routes and irregular routes) as one who "undertakes . . . to transport . . . property, or any class or classes of property, for the general public," the Court said that a *carrier's* holding out and performance may voluntarily be limited to a few articles only and inferred that actual service can be confined to so few commodities that the willingness to carry a much larger class may be disregarded. But where a wide variety of general commodities has been carried, the applicant "cannot necessarily be denied the right to carry others of the same class merely because he never carried them before" nor can he "necessarily be restricted to those which he carried with more frequency and in greater quantities." The Court emphasized that broader tests than the Commission apparently applied are applicable in Carolina's case:

> "The Commission may not atomize his prior service, product by product, so as to restrict the scope of his operations, where there is substantial evidence in addition to his holding out that he was in '*bona fide* operation' as a '*common carrier*' of a large group of commodities or of a whole class or classes of property. There might be substantial evidence of such an undertaking though the evidence as to any one article was not substantial. The broad sweep of his prior service may indeed have made the carriage of any one commodity irregular and infrequent. Yet, viewed as a whole rather than as a group of separate and unrelated items, his prior activities may satisfy the test of 'bona fide operation' as a 'common carrier' within the scope of his holding out. The fact that some of the articles may have been carried before but not after June 1, 1935 . . . does not necessarily mean that they should be stricken from the certificate, since the natural and normal course of his business may reveal a continuous undertaking to transport any or all commodities embraced within the group or the class."[13]

The Court added that restrictions on commodities to be carried between specified points may not be justified. Such restrictions would not be justified, if "the applicant had established that it was a 'common carrier' for a group of commodities or for an entire class or classes of property and was in 'bona fide operation' during the critical periods in a specified territory." Nor would it normally be proper to limit carriage of particular commodities to specified points where an applicant could establish operations in only a limited number of commodities. Admitting, however, that an applicant's status may vary in different directions or parts of a territory, the Court seemingly approved limitation of Carolina's northbound shipments to cotton yarn, asbestos textile products, spools and empty boxes and exclusion of tires and tubes, with the important qualification that it does not necessarily follow that the specified northbound destinations are proper. But the high Court's sharpest condemnation was reserved for the drastic limitations placed on the return-haul rights of Carolina. Though "the record shows that it carried many different kinds of articles on those southbound journeys, . . . it was permitted to carry beer from Newark, N. J. to two points in North Carolina but not from Baltimore, Md." To base such restriction on the fact that the carrier had not previously picked up beer at Baltimore would "disregard the natural and normal course of business" and do "violence to its common carrier status." Assuming proof of common-carrier status as to a group of commodities and no voluntary restriction of the undertaking to specified points for individual commodities, the Court admonished that "shipments to any parts of the authorized territory, or to any of the authorized points therein, should have been permitted."[14] This rule would seem to call

[13] *Ibid.*, pp. 483-4.

[14] *Ibid.*, p. 487.

for far more flexibility in service and much freer solicitation than under the condemned standards.

Thus the potent voice[15] of the Supreme Court has spoken out vigorously against the Commission's policy of "pulverization" and freezing of motor-carrier operations according to past patterns at the precise time of launching the present national movement for conservation and maximum utilization of existing transport facilities. If the Court's subtle criticism does not suggest the obstacles to achieving maximum operating efficiency under the condemned limitations in certificates, the impossibility of conformance with the major specific provision of General Order O.D.T. No. 3 without drastic relaxation of such restrictions or reorganization of the industry along lines favorable to carriers having adequate two-way rights (probably the larger carriers) will surely have this result. For, effective June 1, 1942, common carriers by motor vehicle were ordered not to "operate a motor truck in over-the-road service unless such truck is loaded to capacity at origin point and will be loaded to not less than seventy-five (75) per cent of capacity on the return trip," or unless the reverse occurs. A similar provision applied to contract and private carriers.[16]

Motor carriers with absolute prohibitions or severe restrictions in their certificates and permits upon carrying traffic for compensation on the return haul can obey the literal terms of this requirement only if, (1) additional back-haul rights are granted temporarily by the Commission, (2) the return-haul restriction is disregarded at the risk of fines for violation or with tacit approval of the Interstate Commerce Commission, and (3) on the return haul, their trucks can be leased to carriers having adequate return-haul rights. In any case the result will be to encourage loads on the return haul whereas in very numerous cases this seemingly economical practice has been discouraged by the Interstate Commerce Commission regulation. The question naturally arises: If it is uneconomical in wartime to discourage loads in both directions where traffic is available, why is not the practice equally uneconomical in normal times? Where competing carriers have back-hauls in reverse directions, the stimulation to mergers that falling rates and low profitability would provide, would seem distinctly preferable to the policy of denying full commodity rights in both directions in that empty mileage would tend to be reduced to a minimum instead of being protected and preserved.

Much fuller comment on the implications of the above-mentioned minimum rate and unification developments than is here possible is justified. The Commission did not elaborate in written reports its reasons for the 4-month suspensions of the four territorial minimum rate orders for common carriers. It did cite two factors in its notices of March 26, 1942, requiring such carriers to show cause why "the effectiveness of the orders" in Ex Parte Nos. MC-20, -21, -22 and -23 should not be suspended. Recalling the halting of "destructive rate cutting" and placing "all respondents on one general minimum rate level" as among the principal reasons for entry of these orders, the Commission here states in each case:

> "That there has been a substantial accomplishment of the purposes for which the minimum rate order was entered, and that respondents should be permitted to propose necessary changes in their rates without waiting for a modification of the minimum rate order upon petition."

This statement strongly implies that destructive competition has been halted or its occurrence is no longer sufficient to require blanket floors to rates in the significant northeastern and midwestern traffic areas. However, the failure to set aside

[15] The dissent of Justices Jackson and Frankfurter condemns the majority for a "reversal on suspicion" and for paying only "lip service" to the principle that where Congress has delegated authority to the Commission and its judgment relates to delegated tasks "it is the Court's duty to leave the Commission's judgment undisturbed."

[16] Cf., General Order O.D.T. Nos. 4 and 5, respectively. The effective date of this provision was postponed until July 15, 1942 and has since been cancelled for all three classes of carriers. However, return loads are still strongly encouraged. A "considerable portion" of routes with empty or partially laden mileage must be laden with a capacity load and "due diligence" must be exercised in maintaining capacity loads.

the findings previously made in the suspended minimum rate proceedings and the warning that "such findings shall be given consideration in the disposition of protests to new schedules" may indicate that the Commission does not intend that the rate competition earlier condemned should be permitted to return.

Various interpretations can be made of this truly significant step. Some, especially advocates of comprehensive and unified control of all agencies according to a uniform pattern, will view it as evidence of the administrative flexibility that makes such control tenable in face of rapidly changing economic conditions. Others, skeptical of the economic case for uniform regulation in disregard of differing economic characteristics, will regard it as a much belated recognition that the market oversupply condition of the recent depressions has passed and as evidence of the basic unworkability of the current control pattern. Still others, whose interests are closely associated with effective regulation of present character, will regard it merely as a procedural change in recognition of the present need for quicker rate adjustments. It may properly be associated with the decision in the *Carolina Freight Carriers* case as illustrating the rising tide of criticism that the Commission has become, to too great an extent, an agent of established carriers, for without doubt, the minimum-rate policies in this field have implemented concerted action on rates by the well-organized large carriers and resulted in higher rates than otherwise would have been available for the shippers. In the opinion of the writer, the suspension authorized is clearly desirable in view of present peak volumes of traffic, the favorable profits situation, the probable savings in costs from O.D.T. encouragement to fully-loaded and noncircuitous movement, and the large volumes of war goods now moving by truck. However, the time limitation of four months seems ultra-conservative. Possibly maximum rate orders lowering rates in reflection of these conditions should be substituted. Certainly all objectionable limitations in certificates and permits, especially those contributing to empty mileage by preventing return-hauls, and the carrying between all points in the authorized territory of all commodities for which equipment is suitable, should likewise be suspended in the interest of the prosecution of the war.

But the approval by the Commission of the formation of Associated Transport, Inc., will not receive equal acclaim outside the regulated transport industries as establishing a desirable direction for motor regulatory policy. Surprise has been engendered in view of the nearly unanimous rejection less than 18 months earlier of the proposed unification of the Transport Company,[17] from which group of 27 Class I motor carriers 8 of the largest have been consolidated into Associated.[18] The approval—in the face of the unique and vigorous opposition of the Antitrust Division, and opposition by the Secretary of Agriculture, the National Grange and four fruit-growers' associations,—is another factor in creating surprise. On the other hand, those who bebelieved that the objectionable financial plan was the primary factor in the Commission's earlier rejection probably anticipated the favorable decision. Others, less concerned with consistency, will doubtless accept this leading decision with an air of resignation in view of the continued spread of large-scale organization and concentration of control. Whatever the attitude, the important fact is that a precedent has now been established for the organization of motor carriers on principal routes into a few relatively large-scale firms.

Space does not afford an adequate review of the Commission's reasons. In contrast to its earlier decision in the *Transport Co.*

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[17] Cf., *Transport Co. — Control — Arrow Carrier Corp.*, 36 M.C.C. 61 (decided Nov. 15, 1940), reviewed by the author in "Economies of Large-Scale Operation in the Trucking Industry," *The Journal of Land & Public Utility Economics*, February, 1941, pp. 112-115.

[18] The eight carriers participating in the Associated transaction, operate 3,300 units of *revenue equipment* as compared with approximately 10,000 vehicles of *all kinds* by the Transport Group. Better comparisons can be derived from revenues and employees. Whereas the Transport Group reported 1939 revenues of $32,000,000 and nearly 9,000 employees, Associated reported almost $17,500,000 of revenues for the same year and approximately 6,000 employees.

case, it now finds that the estimated economies and improvements in service are convincing;[19] that no undue restraint of competition on any route will result; and that the capitalization will not be excessive. An overtone of contributing to national defense by lessening the use of tires and maximizing utilization of equipment can be sensed. No detailed account of how the anticipated economies would take place was included, probably because to a large extent they must be conjectural and based on faith. The same rough measures of adequacy of competition, i.e., lists of the total number of motor carriers, Class I carriers, and some large ones (usually between 1 and 2 millions of annual revenues) not included, the number of authorized Class I carriers between specific points, and the proportion of revenues of the consolidated carriers to total revenues of Class I carries in each territory, were applied despite the criticisms of the Antitrust Division that the extent to which the service offered, commodities hauled, or the routes and points actually served were the same, had not been shown.

An interesting phase is the conflict between the Commission and the Antitrust Division, as to the emphasis to be given restraint of competition. The Commission had probably already been rankled by the recent interventions of the Department of Agriculture and the Bituminous Coal Division in certain rate cases, since inferentially such intervention must either have the purpose of bolstering the Commission in building adequate records or of assuring that all elements in the public interest are fully considered. But the contention by Assistant Attorney General Thurman Arnold that "The Antitrust Division is the only governmental agency in a position to present evidence on the monopoly question from a point of view of the public interest,"[20] must have presented the Commission with an issue of first consequence. Though no direct comment on this contention is made, the Commission did summarily reject the Antitrust Division's interpretation of the weight to be given competition as a factor in determining the requirements of the public interest:

"We are unable to agree with the argument of the Antitrust Division that it was the intention of Congress in enacting section 5 that we approve only such transactions as would not result in an 'unreasonable' restraint of competition within the meaning of the antitrust laws, regardless of benefits that might result or the adequacy of remaining competition. . . . In our opinion the Congress intended to place *wholly within our judgment* the granting or denying of authority for these transactions under section 5. The specific reference to the antitrust laws [relief therefrom] only emphasizes the Congressional intent that we should be empowered to approve transactions which otherwise would be violative of the antitrust laws, if we are convinced that the public interest would thus be best served. Stated differently, section 5 authorizes us to permit unifications which would, except for such approval, result in restraining competition contrary to the antitrust laws, where the disadvantages of such restraint are overcome by other advantages in the public interest, such as direct betterment in the public service of the carriers or *indirect betterment through stabilization of the industry.*" (Emphasis supplied.)

The difference of opinion between the Commission and the Antitrust Division represents more than a mere inter-governmental dispute. It reflects a deep schism over the role for the vigorous and pervasive competitive elements in modern transport markets and the criteria for judging the public interest. Which view is correct? Should transport agencies under present techniques and inherent competitive conditions be relieved from antitrust laws? This old question in new form deserves much more extended analysis than it has received. To say that certain industries should be exempt merely because they are called and

[19] Commissioners Clyde B. Aitchison, W. M. W. Splawn, and William J. Patterson dissented and Joseph B. Eastman did not participate. Economist Splawn criticized (Mimeo. p. 50, 51) the finding of "many opportunities for greater economy and efficiency of operation" as "vague and speculative," and added that "the same general point could probably be made with respect to any proposed consolidation." He also viewed the substitution of paid management for personalized ownership as unlikely to lead to "improvement in service or increase in economy and efficiency."

[20] Cf., his letter of August 15, 1941, to Chairman Joseph B. Eastman of the Commission requesting the privilege of intervention to present "evidence bearing on the question of whether the proposed unification unduly restrains competition in the transportation field."

regulated as public utilities is much too simple an answer. The reversal of the Commission's policies with respect to commodity, commodity-point, and return-haul limitations in operating authority for interstate motor carriers suggests that regulation has gone too far in the direction of restricting competition for the immediate benefit of established carriers, especially the large carriers serving regular routes. Though criticism as to the Commission's minimum rate policies has not been reflected in high quarters, the suspension orders undoubtedly constitute a recognition by the Commission that criticism of its willingness to block competitive rate reductions and independent action by carriers has been growing. But even the unsatisfactory experience with other attempts to operate relatively large-scale trucking enterprises, alluded to in the *Transport Co.* case, has not persuaded the Commission that the trucking industry can not be most economically organized on a large-scale basis. Experimentation may call later for some retrenchment as in the case of entry and minimum rate policies.

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# Public Utility Financing In the Second Quarter of 1942

PUBLIC utility security offerings in the second quarter of 1942 totaled only $104 millions, as compared with $195 millions in the first quarter and $289 millions in the corresponding period in 1941. Volume in the current quarter is lower than at any time since 1937.

The decline in activity which has taken place was general among the various types of securities. The volume of publicly offered long-term bonds, for example, was 42% below the average for 1941; private offerings were off 85%, serial offerings 39%, and preferred stock issues 88%. There were no offerings of common stock recorded during the quarter.

The fact that the volume of publicly offered long-term bonds has held up relatively well, as compared with privately sold issues, may be of some significance. It will be remembered that privately sold issues have accounted for an increasingly large percentage of total long-term bonds offered since about 1937. This tendency reached a climax in 1941 when 62% of the total offerings were sold privately. Thus far in 1942 this percentage is only 24%.

*Long-Term Debt Financing.* Public offerings of utility long-term debt issues are listed in Table I. The weighted average offering yield of 3.39%, while higher than in any quarter since 1939, is still relatively

TABLE I. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY, SECOND QUARTER, 1942

| Company and Issue (A) | Coupon Rate (B) | Principle Amount (C) | Maturity Date (D) | Month of Offering (E) | Offering Price (F) | Offering Yield (G) | Underwriters' Commissions (H) | Proceeds to Company (I) | Est. Incidental Exp. (J) | Net Proceeds (K) | Cost to Company (L) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | | | | % | % | % | % | % | % | % |
| Union Electric Co. of Missouri | | | | | | | | | | | |
| First Mortgage (a) | 3⅜ | $10,000,000 | 1971 | April | 109.88 | 2.86 | .60 | 109.28 | .37 | 108.91 | 2.91 |
| Public Service Co. of Indiana | | | | | | | | | | | |
| First Mortgage | 3⅜ | 4,000,000 | 1972 | May | 102.75 | 3.23 | 1.07 | 101.68 | 3.12 | 98.56 | 3.45 |
| Public Service Elec. & Gas Co. | | | | | | | | | | | |
| First Mortgage | 3 | 15,000,000 | 1972 | June | 104.50 | 2.78 | .94 | 103.56 | .46 | 103.10 | 2.85 |
| Virginia Public Service Co. | | | | | | | | | | | |
| First Mortgage | 3¾ | 26,000,000 | 1972 | June | 106.75 | 3.39 | 1.10 | 105.65 | .94 b | 104.71 | 3.49 |
| Sinking Fund Debentures | 5 | 10,500,000 | 1957 | June | 102.00 | 4.81 | 3.23 | 98.77 | .94 b | 97.83 | 5.21 |
| Total or Weighted Average | | $65,500,000 | | | 105.71 | 3.39 | 1.33 | 104.38 | .88 | 103.50 | 3.53 |

a—This is part of an issu originally offered in May, 1941. Incidental expenses shown here are estimated on the basis of those reported on the entire issue.
b—Pro rata share of expenses.

TABLE II. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PRIVATELY—SECOND QUARTER, 1942

| Company and Issue (A) | Coupon Rate (B) | Principal Amount (C) | Maturity Date (D) | Month of Offering (E) | Offering Price (F) | Offering Yield (G) |
|---|---|---|---|---|---|---|
| | | | | | % | % |
| Springfield City (Mo) Water Co. First Mortgage, A | 4% | $ 254,000 | 1956 | April | a | a |
| Allied New Hampshire Gas Co. First Mortgage | 4% | 75,000 | 1957 | May | a | a |
| Indianapolis Pr. & Lt. Co. First Mortgage | 3% | 2,000,000 | 1970 | May | 101.00 | 2.95 |
| Long Island Lighting Co. S. F. Debentures | 3¾% | 10,000,000 | 1956 | May | 100.00 | 3.75 |
| Penns Grove Water Supply Co. First Mortgage, A | 3¾% | 175,000 | 1972 | May | a | a |
| Vermont Utilities, Inc. First Mortgage, A | 4% | 150,000 | 1967 | May | a | a |
| El Paso Natural Gas Co. First Mortgage | 3% | 12,000,000 | 1957 | June | 100.00 | 3.00 |
| Michigan Gas & Electric Co. First Mortgage, A | 3¾% | 3,500,000 | 1972 | June | 102.74 | 3.60 |
| Total of all Issues | | $28,154,000 | | | | |
| Total or Weighted Average (excluding issues for which complete data are not available) | | $27,500,000 | | | 100.42% | 3.35% |

a Information not available.

low, being only slightly above the average for the second quarter of 1941. Two of the five issues listed were offered at prices to yield less than 3%. Underwriters' commissions remained at the relatively low level which has prevailed since the Securities and Exchange Commission competitive bidding rule took effect a year ago. Estimated incidental expenses, on the other hand, rose to .88%, which is considerably higher than the 1941 average of .54%.

The long-term bond issues sold privately are listed in Table II. There were 8 issues totaling $28,154,000. The weighted average yield was 3.35%. The two largest issues were the El Paso Natural Gas Company's 1st mortgage 3's of 1957 amounting to $12,000,000 and sold at par to yield 3% and the Long Island Lighting Company's 3¾s sinking fund debentures of 1956, amounting to $10,000,000 and sold at par to yield 3.75%. There were several small issues of subsidiaries of the Colonial Utilities Corp. sold privately pursuant to a plan of reorganization of the latter company listed in the table. The authors were unable to obtain data on offering price or yield for these securities. There is nothing in the summary of privately sold long-term bond issues in this quarter to indicate a change in trend in the cost of long-term capital.

*Other Utility Financing.* Issues with serial maturities offered in the second quarter are listed as follows:

| | |
|---|---|
| $5,900,000 | Central Power and Light Co., 2½%, 2¾% and 3% notes due serially 1942-1952, priced at par. Sold privately. |
| 750,000 | Michigan Gas and Electric Co., 3½% debentures due serially 1942-1952, priced at par. Sold privately. |

The Washington Gas Light Company offered 40,000 shares of $5 cumulative preferred stock at $100 per share. This offering was made in May and is only preferred stock offered during the quarter. No offerings of common stock were recorded.

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# Book Review Department

*Parity, Parity, Parity.* By John D. Black. Cambridge, Massachusetts: The Harvard Committee on Research in the Social Sciences, 1942. pp. xi, 367. $2.00.

"The Farm Bloc vs. The Nation," the title of the second chapter indicates why this book was written. The author holds that 110 per cent of parity as a lower limit of price ceilings on farm products will be an important cause of inflation. While he disapproves of agriculture's request for 110 per cent of parity as the minimum price ceiling for farm products, he argues that throughout the years agriculture has been underpaid relative to labor and capital.

The book is written for the general public and for students in universities who would like to supplement their reading by a vital discussion of war-time relations between agriculture, labor and the rest of society. The style is described as journalistic rather than professional economics. The result of this attempt at journalism is not entirely fortunate. There appears to be no clear-cut basis for the selection of material. The result is such a multitude of subjects inconclusively examined that most of the workers in the field of agricultural economics should find in this book a satisfactory pampering for their pet projects or prejudices.

The triple title was suggested by an incident in one of Alfred Tennyson's poems and the author's concept that our economy is made up of three relatively homogenous groups—Agriculture, Labor, and Capital—each fighting for "Parity." "If Agriculture gets more than its share . . . , then the rest of society must get less than before." The groups are not said to be homogenous, but much space is given to comparisons of the average returns of each group without emphasis on the variation among the returns to individuals within each group. Another use of an average with scant attention to the scatter about it is added to the great number already in the record.

The author does note the unsatisfactory nature of the data upon which the averages are based but nevertheless "holds to the judgment that Agriculture during the whole 72 years has been underpaid relative to both Labor and Capital."

This long-standing disparity, which the author alleges to exist, requires remedies of a "fundamental nature" that "cannot be successfully instituted with a major war in progress." It is, therefore, held to be inappropriate that agricultural leaders should ask that price ceilings on farm products be established at not less than 110 per cent of parity. "Increases in farm prices above Parity have already contributed importantly to the rising cost of living and will be the major cause of further increases that may occur in the next year. These rises in the cost of living become the principal cause of wage increases, which in turn add to the cost of living, and thence to the prices paid by farmers."

There is the spiral. "Still that wilful and intrenched group of congressmen and farm organization leaders known as the Farm Bloc refuses to grant President Roosevelt's simple request"—for ceilings at 100 per cent of parity. The public became alarmed and this "consternation" led the author "to turn his energies to the writing of this book." Note that returns to Capital are not included in the spiral. "From 1930 to 1940, the returns to Capital were much reduced, in any relative sense, mainly because of the phenomenal fall in interest rates." The author reports that of the total income payments for the four months—October, 1941-January, 1942 – 33 per cent went to capital, 56 per cent to labor, and 11 per cent to agriculture. It is the 11 per cent working on the 56 per cent that is said to be the real threat of inflation.

The author quickly disposes of his original purpose which was to present materials and analyses that would enable the reader to form his own judgments as to the merit in the Farm Bloc's and the President's positions. The chapter on "The Evolution of Parity" shows that the index numbers used in calculating parity are not precise and that changes in the methods used in constructing the index of prices paid by farmers could change appreciably the values of the index numbers. This fact alone is enough to show that "parity" itself gives no evidence of just where price ceilings should be established. Why then all the commotion about the difference between 100 per cent and 110 per cent of parity?

The chapter on "The Evolution of Parity" is supported by chapters on "Parity by Commodities," "The Geography of Parity" and "Alternative Parity Standards." A chapter on "Cost of Production" gives the author an opportunity to scold professional teachers of farm management.

The author offers "necessary price" as a "very good alternative to—even substitute for—parity price as a standard for a public price policy for farm products—at least in wartime." "Necessary price" is the same as "necessary cost" and "Necessary cost is the amount required to induce producers to turn out what consumers will buy at that price." No formula for determining necessary price is given. Curiously, though the author approvingly describes "necessary cost" as the costs required "to get the needed amount of it produced" while in the preceding page he has spoken slightingly of those who calculated cost on the basis of what a farmer needed in order to live according to certain standards. Why *needed* production is proper and *needed* income improper is not explained.

The task of discussing 100 per cent vs. 110 per cent of parity requires only about one-third of the twenty-four chapters. The remaining chapters have only an uncertain relationship to the issue which caused the book to be written. The result is a group of loosely related chapters. A chapter on "Scarcity vs. Abundance" deals with the relation between volume of production and total revenue in agriculture. The method of analysis is largely graphic and after working through a chart or two, the author notes that "unfortunately the years do not lie very closely along the line, and there is a pronounced tendency for the early and late years to be bunched." So a new start is made. The data are divided into three groups of consecutive years and separate lines are fitted to each group. One of these lines departs sharply from the direction of the other two. The slope of this line is determined largely by two of the ten years on which it is based. The author concludes that "The foregoing explanation is far from complete."

Three chapters deal with government loans and purchases, four with price control and inflation, five with farm and city comparisons. Why was so large a portion of this book devoted to these agricultural-labor comparisons? The chapter on "The Farmer's Interest in Wages" may give a hint as to why this and other material was included.

This chapter is nothing more than a protest against those who call attention to the fact that during recent decades factory payrolls and farm incomes have moved up and down together. The author is particularly peevish with those who infer that factory payrolls are the causal elements in this co-variation. Of such inferences he says—"than which a more flagrant piece of propaganda seldom has emanated from any office public *or* private."

A chart, offered in support of this charge, is said to explain the ups and downs in agriculture's total revenue. Part of these ups and downs are "associated with the price level." What this means is not explained nor are the changes said to be "associated with the price level" proportionate to changes in the B.L.S. all-commodity index. Apparently a trend of some kind is involved. Changes in agriculture's total revenue not "associated with the price level" are associated with "changes in non-farm per capita real income" which is apparently non-farm money income per capita divided by a cost-of-living index. It is impossible to determine just how the chart was constructed, but it is probable that the several factors used would so nearly cancel out that the author's explana-

tion really is the same as the "flagrant piece of propaganda" to which he objects.

Graphic analysis and dependence upon the "price level" to explain economic changes as used in this chapter are typical of much of the analysis found in the book. Of this analysis the author truly states, "The mechanics of logical ordination are largely concealed." The fifty or so charts and the repeated reference to the "price level" suggests that the author has adopted the same type of techniques as so frequently used by Dr. Warren. Much of the analysis was first prepared by Marion Clawson.

A considerable part of the material in the book appears to have been included for the same reason that the chapter on "The Farmer's Interest in Wages" was included —merely because of some incident in the author's experience. At times such material constitutes a chapter, at times a paragraph or merely a sentence. In one place, for example, a paragraph is included apparently only to point out that the author believes one of his early teachers, Professor John R. Commons, may have had only an incomplete understanding of certain features of our economy.

The best parts of the book are those portions which record historical facts and incidents. It is unfortunate that they are not better organized and are diluted with so much questionable "analysis." The book shows signs of hasty preparation. In a single paragraph the author mentions "farm income per capita" and a few sentences later "total revenue" when apparently referring to the same thing. Elsewhere he writes, "farmers will be demanding higher prices because the index number of prices received will be steadily mounting." These are examples.

In the foreword the author expresses the hope that others will find time in the next year or two to help him with such revisions as are necessary. The reviewer suggests that it might be better to start afresh. The author's years of acquaintanceship with agriculture should well equip him to record the *history* of the economics of agriculture during recent decades.

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*The Economics of Public Utility Regulation.* By Irston R. Barnes. New York: F. S. Crofts & Co., 1942. pp. xxiv, 952. $5.00.

Professor Barnes of Yale has written a comprehensive book (887 pages of text, plus 20 pages of selected bibliography) on public utility regulation. The author, who brought out a public utility case book in 1938, says in the preface: "The present undertaking . . . has sought not only to produce a textbook that will meet all the needs of the instructor who prefers the conventional method of teaching, but also to provide the essential background materials for the instructor who prefers to pursue the more difficult and rewarding case technique." In these respects the author has achieved his aims.

It would be difficult to imagine a more heavily documented treatise on public utility economics. All of the pertinent U. S. Supreme Court cases, except possibly one, and numerous lesser authorities are cited. The one case which is omitted is the *Deep Rock* case, Taylor v. Standard Gas Co., 306 U. S. 308: (1939). In that case an amount due a parent company on open account was subordinated to the claims of preferred stockholders in a 77-B proceeding, due to mismanagement of the subsidiary by the parent. The case is important because of the potential application of the rule by the Securities and Exchange Commission in its administration of the Holding Company Act.

The book is divided into twenty-five chapters. The structure is described by the author in the following language: "Following a consideration of the legal basis of regulation, the economic characteristics of public utilities, and the nature and organization of regulatory agencies, the discussion concentrates on certain critical regulatory problems—the control of rates, pricing problems, the determination of the rate base, operating expenses, security issues and capitalizations, and intercorporate rela-

tions; the regulation of service, franchises, accounting, hydro-electric developments, and the interstate transmission of electricity and gas are dealt with more briefly. Municipal ownership and operation are considered in relation to the newer forms of public ownership—the public utility districts, the power cooperatives, and the federal projects; and the relation of the various forms of public ownership to the regulation of privately-owned utilities is recognized . . ."

Several pages of well-selected source materials together with selected readings on the subject matter of each chapter and also a table of cases supplement the text. The footnotes, the citations and the selected bibliography reflects the prodigious and scholarly efforts of the author to make his work complete.

The book starts off in the conventional manner by discussing the legal basis of regulation. The rise of the "affected-with-a public-interest" concept from the *Munn case* (1877) to the *New State Ice Company* decision (1932) and the almost immediate decline and practical abandonment of that concept in the *Nebbia* case (1934) are portrayed with keen understanding. We may all agree with the conclusion on this phase: "At the present time, it may be said that the Supreme Court rests its decisions respecting the extension of state regulation upon the theory of an all-inclusive police power, whereby the 'state is free to adopt whatever economic policy may reasonably be deemed to promote public welfare' and that the judicial inquiry will stop with a finding that 'the laws passed . . . have a reasonable relation to a proper legislative purpose, and are neither arbitrary nor discriminatory'."

Again in the orthodox manner the author devotes four chapters to fair value, reproduction cost and other phases of legal rate making which, together with a chapter on *Alternatives to the Present-Value Rate Base* comprise 218 pages. The fair value doctrine is discussed in detail. No major argument for or against this out-moded legal principle is omitted. The case for fair value is stated fully. But the author concludes, as he must from the evidence, that fair value has not worked and is not capable of functioning with efficiency.

After fair value is disposed of, the author seeks an alternative and comes forth with a modified prudent investment base. Evidently, he would follow the recommendation of the Minority Report of The Commission on the Revision of Public Service Commission Laws of New York. In computing the rate base, he would start with a valuation figure as of a certain date to which cost of net additions would be added and from which an appropriate depreciation reserve would be deducted for current determinations. But why start with a valuation amount? Why not use prudent investment in its unadulterated form? All the arguments massed against fair value as the rate base apply with equal force against fair value as the starting point. It is trite to say costs cannot be ascertained. In practically all instances, as experiences under the new systems of accounts are rapidly disclosing, costs can be ascertained satisfactorily. It would be unfortunate after insisting that books of account be stated on a sound basis, to jettison the figures shown therein for delusive fair value guesses, even as a starting point. It is but a short step from modified prudent investment to prudent investment proper, which step the author can easily take.

In connection with his modified prudent investment base, he also advocates equalization reserves of earnings. The inauguration of such a plan could only occur in a time of prosperity and high earnings.

Since the book was published, a far-reaching decision has been handed down by the Supreme Court in the matter of the rate base determination. In the opinion of many authorities, the decision on March 16, 1942, in *Natural Gas Pipeline Company of America* lays the ghost of *Smyth* v. *Ames*. A concurring opinion of three judges said this about the main opinion: "As we read the opinion of the Court, the Commission is now freed from the compulsion of admitting evidence on reproduction cost or of giving any weight to that element of 'fair value'. The Commission may now adopt, if it chooses, prudent investment as a rate base—the base long advocated by Mr. Justice Brandeis. And for the reasons stated by Mr. Justice Brandeis in the *Southwestern Bell Telephone* case

there could be no constitutional objection if the Commission adhered to that formula and rejected all others." Thus, it would appear that in any future revision of this work and of similar treatises, the space devoted to fair value and its handmaid, reproduction cost, can be greatly reduced. This would permit greater attention to purely economic matters, such as price-fixing policies.

The chapter on price-fixing policies discusses practically all forms of rate schedules as well as cost allocations. It is well written. It would stand, however, a much more adequate treatment of the computation of demand costs. For instance, the comparison on pages 330-31 of system peak and diversified peak demand costs fails, upon analysis, to disclose a difference. Then too, the orthodox position that all fixed charges are properly allocable to demand is apparently approved. We have gone too far in this direction. Among other things, it is poor economics to allocate all return (profit) to the demand element and none to the quantity of product sold. The Federal Power Commission, in deciding natural gas rate cases, allocates one-half of the return to demand and one-half to commodity (MCF).

Depreciation properly comes in for considerable discussion. The author displays a genuine understanding of this controversial subject. Professor Barnes treats depreciation as the loss in service value which is the only true economic concept. He even mentions briefly the timely subject of whether the book reserve or the proper reserve (reserve requirement) should be deducted in computing the rate base. To be complete, something ought to be said about the methods of determining service lives, even though this is a highly technical matter.

An innovation is a chapter on original cost. This chapter, which is but eleven pages long, is good as far as it goes but it is not adequate to this reviewer, who may be biased because he is steeped in original cost work. The original cost work of state and federal commissions, resulting in the elimination of millions of dollars of plant inflation and the ultimate strengthening of financial structures, justifies prominent space. In this connection, the problem of disposing of the inflation disclosed by the original cost studies—a serious problem—receives scant attention.

The author's style is clear, although occasionally repetitious, particularly in those sections dealing with fair value. Except as noted above, the book is up-to-date and all pertinent subjects are discussed. The arguments on each side of controversial questions are set forth fully (too fully?) and impartially. The author gives his own conclusions on important matters and these conclusions, generally speaking, may be likened to those of a progressive regulatory commissioner.

In addition to its place as a textbook, the volume will undoubtedly find use as a reference by those who labor in the field.

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